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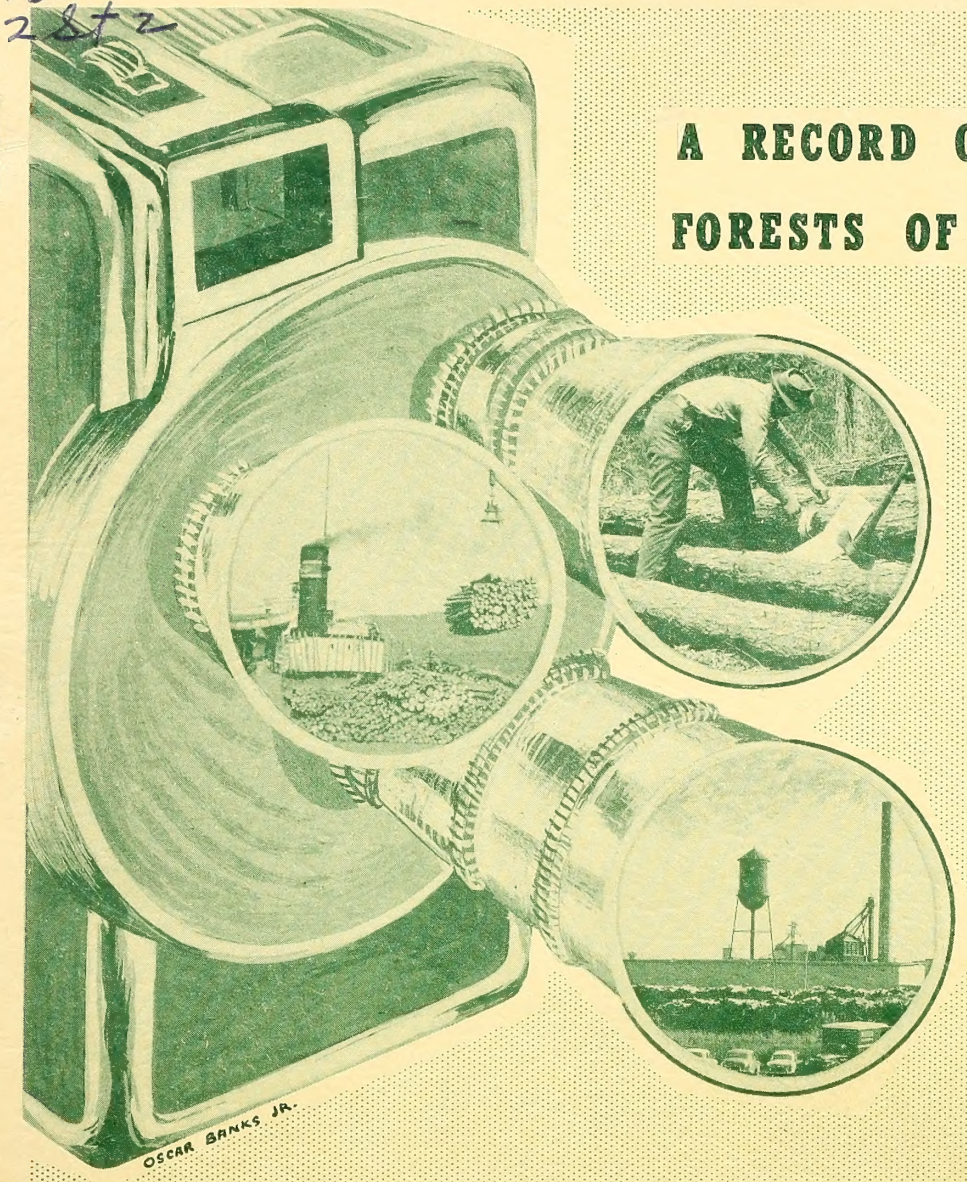

A RECORD OF THE TIMBER CUT FROM FORESTS OF THE LAKE STATES - 1954

By

Arthur G Horn

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A RECORD OF THE TIMBER CUT FROM FORESTS OF THE LAKE STATES, 1954

by

Arthur G. Horn [1/]
Lake States Forest Experiment Station [2/]

INTRODUCTION

This is the seventh in a series of reports published by the Station on timber cut from forests of the Lake States. Similar reports are available for 1946 (Misc. Report No. 7); 1947 (Misc. Report No. 9); 1948 (Station Paper No. 20); 1949 (Misc. Report No. 19); 1950 (Misc. Report No. 20); and 1952 (Misc. Report No. 26).

The purpose of these reports is to furnish information to industries and public agencies on the quantity of forest products harvested, the origin of individual products by species and class of material, and the volume of timber removed through cutting from the forests of each of the three Lake States during a specific year. The data are for timber cut in logging only; no attempt has been made to show the volume of timber cut or killed through land clearing and other cutting operations where no products were taken.

Timber cutting statistics serve many purposes. Landowners and plant operators use them as a basis for making revisions and adjustments in timber management plans, timber sale programs, and wood procurement policies. Any radical changes in the intensity and kind of utilization create a need for revision of such plans and programs. A periodic record of the amount of cutting by wood-using industries also provides a means of analyzing trends in production and consumption, and thus gives some basis for forecasting future timber requirements.

Some brief comments are made on the following pages on trends in cutting and in the production of the more important rough forest products. To ensure a clear understanding of the data (tables begin on page 17). the standards and definitions used in compiling the information are given.

1/ The author gratefully acknowledges the help from many owners and operators of primary wood-using establishments in each of the Lake States who cooperated by furnishing the basic information for this report.

2/ Maintained by the Forest Service, U. S. Department of Agriculture, in cooperation with the University of Minnesota, on the St. Paul Campus, St. Paul 1, Minnesota.

SOME TRENDS IN TIMBER CUTTING AND PRODUCTION OF ROUGH FOREST PRODUCTS

It is natural to assume that to meet the needs of a growing populace, ever-increasing quantities of rough forest products are being harvested each year. Records show, however, that this is not entirely true in the Lake States. Comparing the average quantities of rough forest products harvested during the 1935-44 period with those of 1954, it is rather startling to note that only the raw wood materials channeled to the pulp and paper industry have shown any great increase. For most other products, such as lumber logs, veneer logs, fuelwood, and utility poles, the cutting trend in recent years has largely been downward.

Timber Cutting

Nearly 50 different kinds of rough forest products are harvested from Lake States forests each year. The amount of timber cutting that goes with harvesting these products may vary considerably from one year to another. Market demands, weather conditions during the logging season, and available stumpage largely dictate the amount of timber cut.

Lake States Cut Declines

Timber removed by loggers amounted to about 480 million cubic feet (6 million cords) in 1954. This was about 30 percent less than in 1948 and 20 percent less than the amount of timber cut annually during the 1935-44 period (fig. 1, p.3). The decrease in total cut was brought about by progressively smaller cuts of lumber logs, veneer logs, pulpwood logs (hemlock), fuelwood, and fence posts.

Species in Short Supply Decline Most

Except for the immediate postwar years (1946-48) the overall level of hardwood cutting has been maintained; a decline in the cut of several of the more desirable hardwood species has been offset by increasing use of aspen. The cut of softwoods, on the other hand, has been decreasing. With a tighter supply of available softwood stumpage this downward trend was inevitable. Hemlock registered the most drastic drop of the softwood species. More specifically, the trend of cutting of the principal timber species has been about as follows (percentages and ratios compare 1954 cut with the 1935-44 average):

Hardwoods

Hard maple	A 40-percent decrease. Trend is down.
Soft maple	A 15-percent increase.
Birch (Mostly yellow)	A 47-percent decrease. Steady decline.
Oak	An 8-percent decrease. Relatively stable with some increase during postwar years.
Aspen	Nearly 100-percent increase. Upward trend expected to continue.

Softwoods

White pine	Almost two-thirds less. Steady decline.
Red pine	About one-third less. Rather stable through 1950, followed by a decline.
Jack pine	A 1-percent decrease. Largest cuts registered during postwar years (1946-48); more recent cuts have remained very stable.
Spruce	About 20-percent less. Erratic but mostly downward.
Balsam	A 24-percent increase. Steady rise until 1952, followed by a slight decline.
Cedar and Tamarack	About a 40-percent decline. Wide fluctuations in cedar markets have resulted in erratic cuts; tamarack cut has been on the downgrade.
Hemlock	A 75-percent decrease. Abrupt downward trend, most drastic of all species

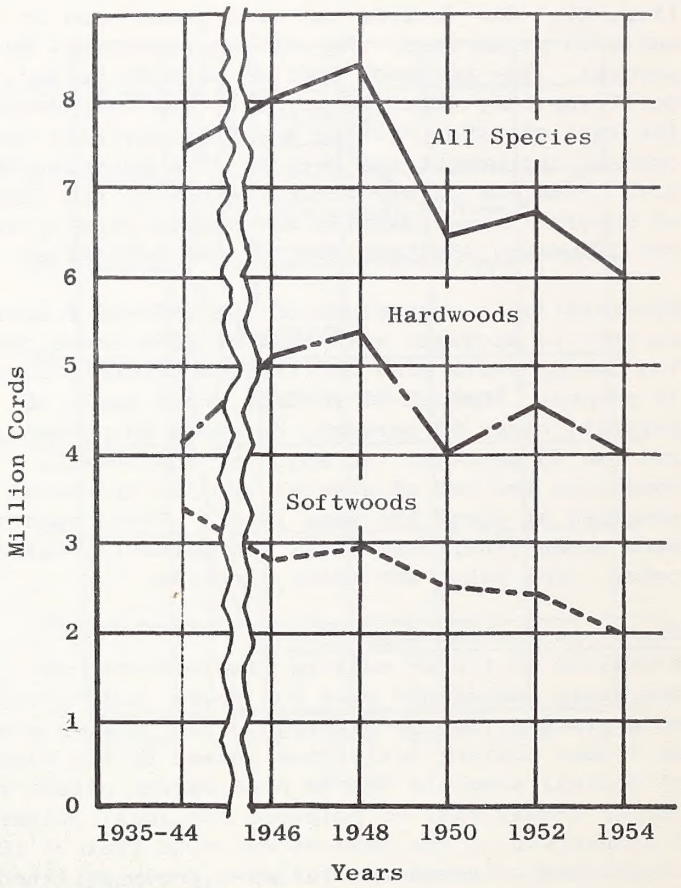

Figure 1.--Trends in timber cutting by species groups, Lake States.

Michigan Timber Cut Drops Off Sharply

The greatest reduction in timber cutting occurred in Michigan where the 1954 cut was about 30 percent less than the average annual cut during 1935-44 (fig. 2). The decline was most pronounced in the softwood group where the cut dropped almost 50 percent. The hardwood species held up better, declining only about 20 percent, but only because the rate of aspen cutting was substantially increased throughout the period. The general downward trend was partly accounted for by the closing of several large sawmills and veneer plants, and the temporary shutting down of two pulpmills.

Specieswise, a comparison of the 1935-44 timber harvest in Michigan with that of 1954 shows that the cut of white pine declined 52 percent, spruce 39 percent, hemlock 67 percent, hard maple 48 percent, birch 50 percent, basswood 60 percent, and oak 40 percent. In spite of the overall reduction the cut of several species increased or remained at about the same level. These species were aspen (increased about 160 percent), balsam, cedar, jack pine, red maple, and elm.

Wisconsin Decline More Gradual

A decline in timber cutting also occurred in Wisconsin during the past few years, but it was more gradual than in Michigan. The retarding effect on timber cutting activities caused by the closing of several sawmills was to some degree offset by larger annual cuts of pulpwood for local pulpmills. A comparison of the 1935-44 cut with that of 1954 shows that softwood species as a group declined 63 percent, while the hardwood group increased nearly 15 percent. Sharp increases in the cut of aspen for pulpwood have kept the hardwood cut from sagging.

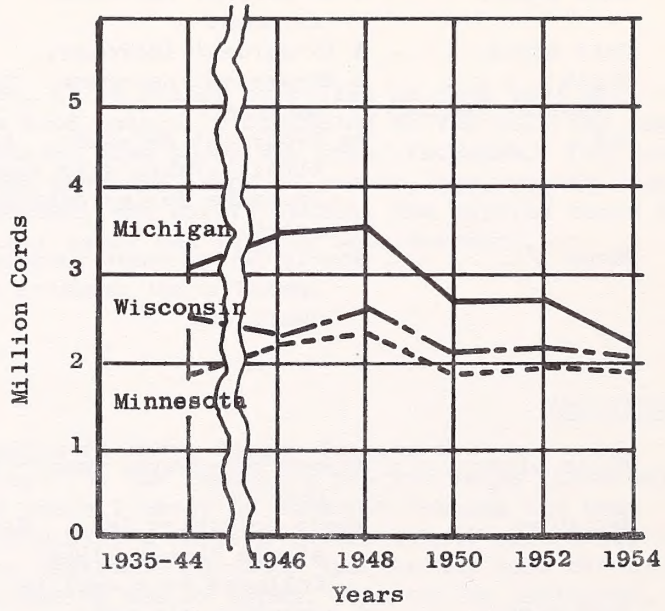

Figure 2.--Trends in timber cutting by States.

Comparing species for the same period the cut has been as follows: White pine declined 73 percent, spruce 45 percent, cedar 49 percent, hemlock 81 percent, hard maple 22 percent, birch 52 percent, basswood 30 percent. Species whose cut has increased or remained at about the same level are: Aspen (increase about 134 percent), soft maple, oak, elm, balsam, and jack pine.

Minnesota Cut has Leveled Off

Timber cutting in Minnesota has been maintained at a rather constant level although there has been some shifting in the magnitude of cutting for some products. The very large sawmills in Minnesota closed years ago, and the cut of timber during the past quarter of a century has been geared mostly to a pulpwood economy. The softwood cut has not varied much more than 20 percent during any 1 year. Minnesota has never been a large producer of hardwood products and the cut of dense hardwood species has remained fairly constant. The upward trend in the total cut of hardwoods has been due primarily to the increased cut of aspen. However, the cut of this species has not followed the same general pattern of increasingly larger annual cuts evident in Michigan and Wisconsin. In Minnesota the cut increased until 1948, and then took a downward trend. Since Wisconsin pulpmills began procuring more aspen in Wisconsin the cut of aspen in Minnesota has declined.

Fewer Sawtimber-Size Trees Being Cut

With a diminishing supply of sawtimber there has been a definite trend toward use of smaller trees. During the 1935-44 period about two-thirds of the timber cut was from sawtimber-size trees compared with only about one-half in the 1950's. Loggers have been cutting large volumes of softwood pole-size timber for many years, but only comparatively recently have they taken aspen of this size. Other small hardwood trees still have few markets.

The ratio of sawtimber to poletimber trees cut differs considerably in each of the three Lake States (fig. 3). It is much higher in Michigan and Wisconsin because of a larger proportional cut of northern hardwood and hemlock timber. In Minnesota more of the cutting has been directed at the pulpwood species.

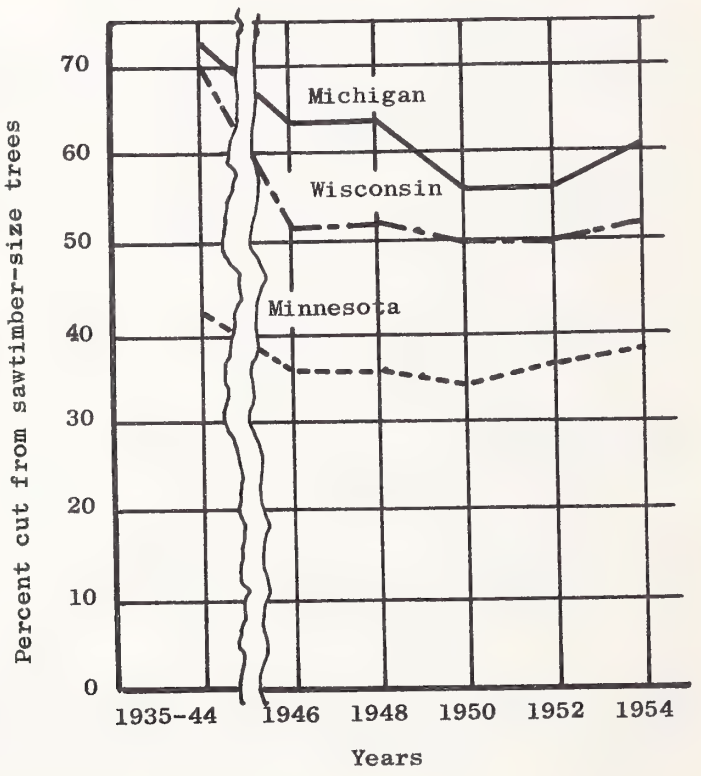

Figure 3.--Trend in cutting: Percent obtained from sawtimber-size trees, by State.

Lake States Lumber Production Declines

During the 1935-44 period an average of about 1 billion board-feet of lumber was cut annually in the Lake States. Lumber production climbed during and after World War II, reaching a peak of about 1-1/3 billion board-feet in 1948 (fig. 4). Since then the trend has been downward. Production of softwoods has declined considerably more than that of hardwoods; the softwood lumber output in 1954 was about 40 percent less than the amount produced in 1948, whereas the hardwood cut dropped only about 25 percent.

Wisconsin Sawmills Import Lumber Logs from Other States

Some of the large Wisconsin sawmills have shipped in logs from other States and Canada for a number of years. Annual shipments averaged about 27 million board-feet during 1935-44. The largest quantity, 40 million feet, was shipped in during 1946, mostly from the Upper Peninsula of Michigan. Since then shipments of lumber logs to Wisconsin have been steadily declining; only about 27 million feet were received in 1954. As in other years most of the logs came from Michigan, although several million feet were from Minnesota.

Michigan and Minnesota mills also have shipped in logs from other States; however, the quantity has been small compared to Wisconsin.

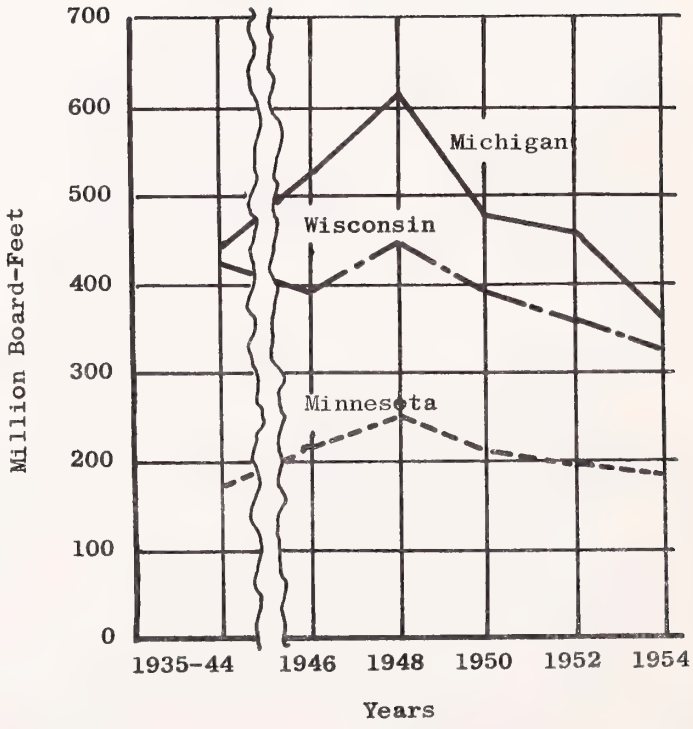

Figure 4.--Trends in lumber production, by State.

Lake States Pulpwood Production Increases

The average annual pulpwood cut in the Lake States during 1935-44 was about 1.4 million cords. Since 1944 the trend in pulpwood production has been generally upward, reaching a high of over 2½ million cords in 1951 (fig. 5). The 1954 pulpwood cut was 2.3 million cords--nearly two-thirds more than the average annual cut attained during the 1935-44 period.

During the 1930's and early 1940's Michigan was the leading pulpwood producing State, followed by Wisconsin and Minnesota. Minnesota took over the lead in 1942 and has held it since that time.

Pulpwood production trends for the Lake States in the more important species have been as follows:

Species	Pct.change: 1954 cut vs. 1935-44 av.	Fluctuations during 1946-54			
		Low		High	
		Year	M cds.	Year	M cds.
Jack pine	+ 26	1949	273	1951	545
Spruce	- 6	1950	315	1952	452
Balsam	+ 41	1953	248	1948	400
Hemlock	- 60	1949	108	1946	314
Aspen	+432	1949	486	1954	1006
Misc. Hwd.	1/	1946	8	1954	81

1/ The cut of miscellaneous hardwoods was negligible until 1946.

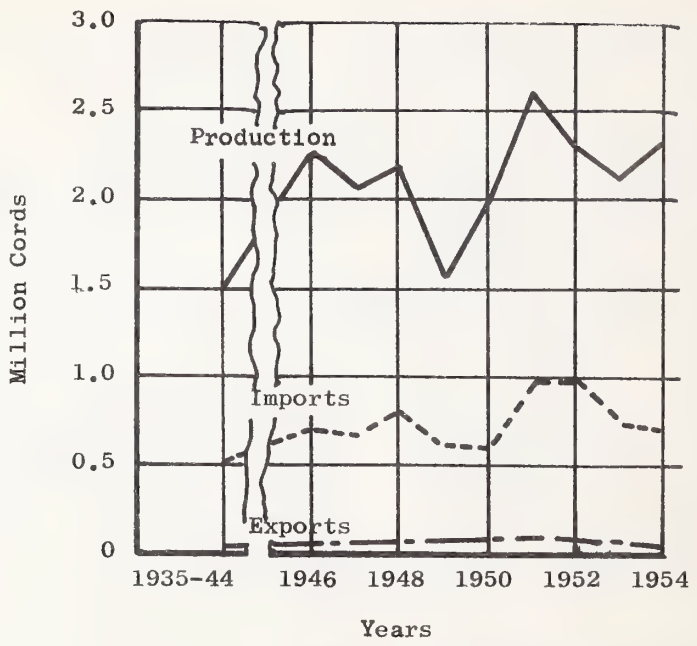

Figure 5.--Trends in pulpwood production, imports, and exports, Lake States.

Pulpwood imports from other States and Canada have shown an upward trend, but the gain has been modest. Pine shipments increased approximately 122 percent, spruce 25 percent, and aspen 22 percent. Imports of balsam were stable.

Exports to other States have dropped off in recent years. They were at their high in 1951 when more than 50 thousand cords were shipped out. Currently such shipments are less than 10 thousand cords. Species exported were largely spruce, balsam, and aspen.

Minnesota is Largest Producer of Pulpwood

The average annual pulpwood cut in Minnesota during 1935-44 was about 470 thousand cords. Following World War II the trend has been generally upward, reaching a high of over 1 million cords in 1951 (fig. 6). The 1954 pulpwood harvest was nearly 80 percent more than the average attained during 1935-44. Minnesota accounted for about 36 percent of the regional total in 1954.

Pulpwood cutting by individual species has shown some rather definite trends during the past few years; they are as follows:

Species	Pct.change: 1954 cut vs. 1935-44 av.	Fluctuations during 1946-54			
		Low		High	
		Year	M cds.	Year	M cds.
Jack pine	+ 77	1949	163	1951	340
Spruce	+ 7	1950	186	1952	293
Balsam	+123	1946	93	1952	163
Aspen	+248	1949	133	1951	283
Misc. Hwd.	1/				

1/ Negligible cutting through 1954 except for a small quantity of white birch.

Pulpwood exports to other States have been rather erratic, with the highs and lows more or less following the production pattern. During the past several years exports have shown a downward trend. Shipments of aspen seem to have declined more than those of other species.

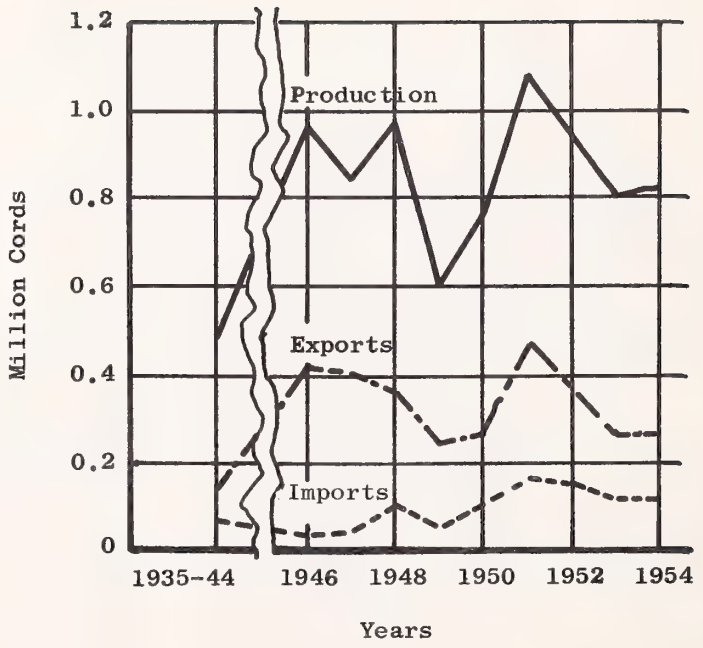

Figure 6.--Trends in pulpwood production, imports, and exports, Minnesota.

There was a general upward trend of Canadian pulpwood imports through 1951 followed by a decline. Imports from adjoining States (Wisconsin) began in 1950 with annual shipments varying between 10 and 20 thousand cords.

Wisconsin Pulpwood Cut Climbing

The average annual pulpwood cut in Wisconsin during 1935-44 was about 430 thousand cords. Following World War II the trend has been generally upward (fig. 7), with a slight dip in 1949-50 which was much less severe than in either Minnesota or Michigan. Since then the cut has been going up, reaching a high of 690 thousand cords in 1954; this was nearly a 40 percent increase over the 1935-44 average.

The pulpwood cut by individual species has shown some rather definite trends during the past few years:

Species	Pct. change: 1954 cut vs. 1935-44 av.	Fluctuations during 1946-54			
		Low		High	
		Year	M cds.	Year	M cds.
Jack pine	+ 13	1953	71	1947	157
Spruce	- 6	1953	25	1952	39
Balsam	+ 27	1953	45	1948	87
Hemlock	- 64	1949	47	1952	66
Aspen	+404	1948	167	1954	348
Misc. hwd.	1/	1946	0	1954	49

1/ Cutting of these species was negligible until 1950.

The quantity of pulpwood exported from Wisconsin to other States has been negligible. The largest amount, 42,000 cords, was exported to Michigan in 1947. In 1954 about 15,000 were exported, all going to Minnesota.

Imports have been very erratic, fluctuating considerably over the years. The proportion of wood received from Minnesota and Michigan has remained relatively stable at about 60 percent, with the remaining 40 percent coming from Canada and Western States. Shipments from the West amounted to about 27,000 cords in 1946, increased to 138,000 cords in 1951, and slumped to 67,000 cords in 1954.

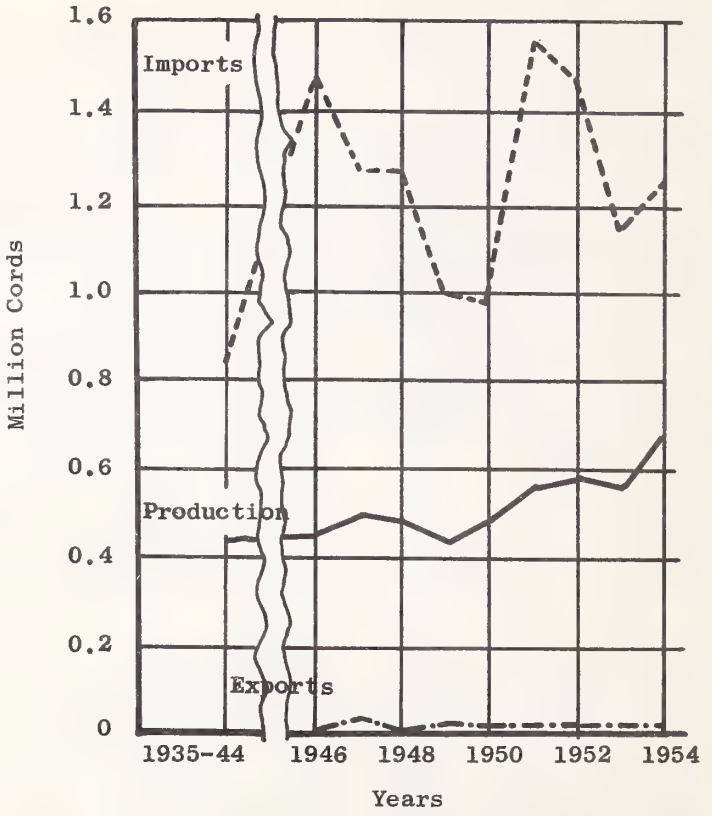

Figure 7.--Trends in pulpwood production, exports, and imports, Wisconsin.

Michigan Pulpwood Cut Erratic but Climbing

The average annual pulpwood cut in Michigan during the 1935-44 period was about 556 thousand cords. As in Minnesota, the cut has been erratic but generally upward (fig. 8). The 1954 pulpwood harvest was about 43 percent more than the average annual cut attained during 1935-44.

Pulpwood cutting by individual species has shown some interesting variations:

Species	Pct. change: 1954 cut vs. 1935-44 av.	Fluctuations during 1946-54			
		Low		High	
		Year	M cds.	Year	M cds.
Jack pine	- 40	1949	38	1951	103
Spruce	- 23	1953	81	1947	134
Balsam	+ 10	1953	102	1948	163
Hemlock	- 54	1949	61	1946	250
Aspen	+760	1947	167	1954	404
Misc. Hwd.	1/	1946	8	1951	34

1/ Cutting of these species was negligible until about 1946.

Through 1948 imports from other States and Canada were on the upgrade; since then imports have generally declined.

Exports to other States have remained relatively stable, with an average of 358 thousand cords shipped out in 1935-44 and 488 thousand cords in 1954. Nearly all of the exported pulpwood was shipped to Wisconsin mills. Ohio was the only other State receiving pulpwood from Michigan.

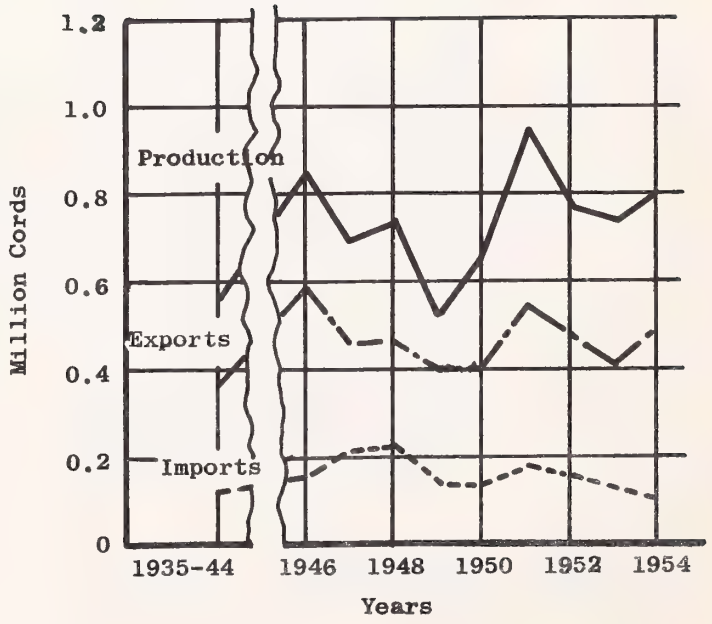

Figure 8.--Trends in pulpwood production, exports, and imports, Michigan.

Lake States Veneer Log Production Declines Sharply

Production of veneer logs rose rapidly during World War II, climbing from about 60 million board-feet in 1935 to nearly 130 million board-feet in 1942. For the 10-year period of 1935-44 the average annual output was about 81 million feet. Cutting continued at a high level through 1948, then dropped off sharply to a low of 72 million feet in 1954 (fig. 9). Through the years about 65 percent of the logs were channeled to plants producing the commercial grades of veneers. The remaining 35 percent were consumed by the container veneer plants. These percentages have remained almost constant in recent years.

Cutting trends by species show that the cut of maple veneer logs has declined about 51 percent since the mid-forties, birch 35 percent, and basswood 25 percent, while oak showed practically no change.

Exports of veneer logs from Lake States to other regions have remained relatively stable. Between 1/4 million and 1 million board-feet of veneer logs are shipped out annually, mostly to the Central States Region. Walnut logs make up most of the exports.

Imports, mostly from Canada, have generally increased. Species shipped in are mostly birch, maple, basswood, oak, and some elm. Birch far exceeds the other species, constituting more than two-thirds of the shipments. The neighboring States of Illinois, Iowa, and Ohio export nearly 3 million board-feet of veneer logs to the Lake States each year.

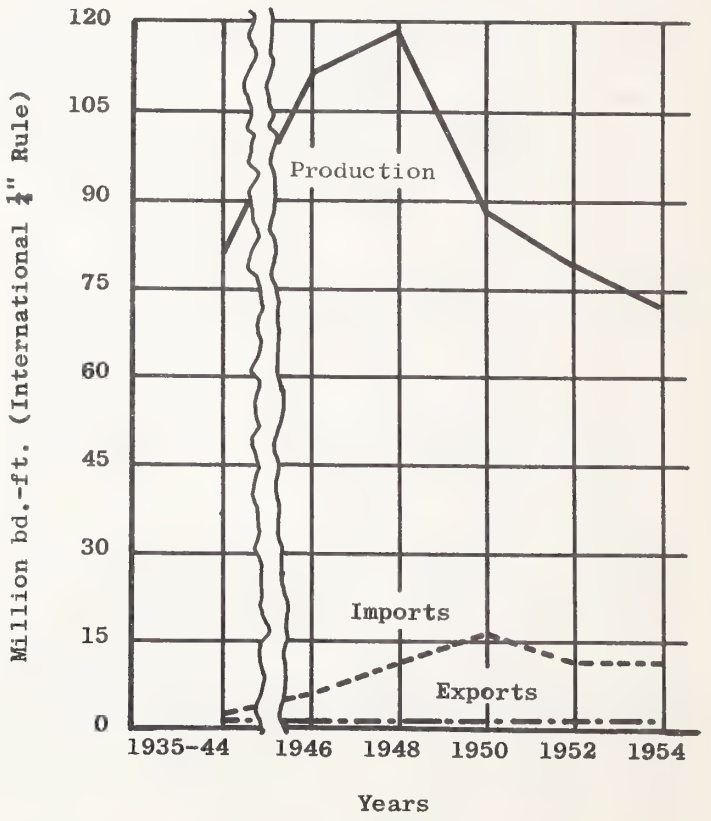

Figure 9.--Trends in veneer log production, exports, and imports, Lake States.

Michigan Veneer Log Production Highest but Least Stable

Although Michigan is the No. 1 veneer-log producing State in the region, the output in recent years has fallen off sharply (fig. 10). In 1946 Michigan accounted for nearly three-fourths of the regional output; currently, it has dropped to less than one-half of the total. Production has declined for each species during the past 10-year period. Maple declined over 60 percent, birch 43 percent, basswood and beech each 47 percent, and elm 75 percent.

The cut of veneer logs in Wisconsin has been very stable, varying from a high of about 36 million during 1935-44 (average) to a low of 27 million in 1954. Wisconsin accounted for only about 25 percent of the total Lake States output in 1946, but in 1954 it produced nearly 40 percent of the total. The cut of maple, birch, and oak veneer logs has held up well over the years, but basswood and elm log production has declined 31 percent and 21 percent respectively since 1946.

Minnesota never has had a large veneering industry. Less than 5 million board-feet were harvested annually until 1948, when veneer mills from other States (primarily Wisconsin) started procuring logs in Minnesota. Since then production has shown slight annual increases. The largest increases by species are in hard and soft maple, white and yellow birch, basswood, elm, oak, and cottonwood.

The Cut of Less Important Products is on the Wane

As pointed out earlier in the text, the harvesting of most timber products from Lake States forests is on the decline. Let's take a look at what has happened to the production of some of the less important forest products since 1935-44:

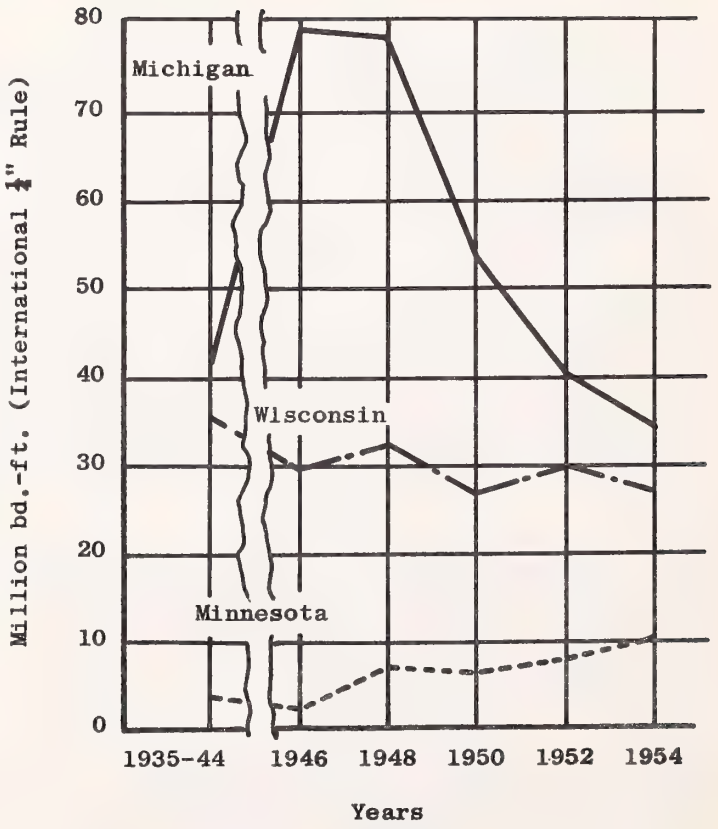

Figure 10.--Trends in veneer log production by State.

Product	Unit of measure	Production		
		1935-44	1954	Pct. change
Fuelwood	Million cords	7-1/3	3	-60
Fence posts	Million pieces	32	24	-25
Round & split mine matls.	Thousand cords	165	70	-60
Piling & utility poles	Thousand pieces	400	190	-50
Coop. logs	Thousand bd.-ft.	1,500	700	-50
Chemical & charcoal wood	Thousand cords	220	146	-33
Excelsior	Thousand cords	60	70	+15

BASIS FOR PRODUCTION STATISTICS

The U. S. Bureau of the Census collected and published 1954 lumber production statistics for each of the Lake States.[3/] The data were obtained by a mail canvass of all sawmills with one or more paid employees, as reported by the Bureau of Old Age and Survivors Insurance; this was supplemented by an area sample for all other sawmills. In some instances where species data were not shown in sufficient detail, the Station broke down groups of species on the basis of past lumber surveys.

These Statewide lumber production estimates, along with supplemental data collected by the Station to determine the interstate movement of logs, were used as a basis for calculating lumber log production estimates.

For the veneer, pulp, distillation, cooperage, and excelsior industries a 100 percent canvass was made of all plants known to have procured logs and bolts from the Lake States region. These data were used to show the amount of rough forest products harvested, exported, and imported in each State.

For such items as round and split wooden mine materials, piling, utility poles, and hewn mine ties, production was estimated from the results of a comprehensive survey made in 1952 and reliable production indices for 1952 and 1954. Gross tons of ore produced in mining operations were used as a production index for round, split, and hewn mine materials. Contacts with several large distributors who handle most of the poles and piling served as a production index for these two items.

Fuelwood and fence post estimates are based on information collected by Forest Survey cooperators from farmers and other rural residents in most counties in each State. Additional information on large cedar post operations was obtained from carloading reports of the common carrier railroads operating in the region.

3/ U. S. Bureau of the Census. Facts for Industry. Series M130-04, March 27, 1957.

CONVERSION FACTORS

After the industry surveys were completed, production figures were converted to volume of timber cut from growing stock by applying factors derived from special studies.

For these studies the Station collected supplemental information on each forest product as to (1) proportion of log and bolt volume obtained from live, cull, and dead trees; limbwood; and from mill residues; and (2) proportion of volume cut from sawtimber, poletimber, and sapling trees.

Gross volumes by individual forest products were determined from information furnished by industry. For example, stock records for posts, utility poles, piling, and round and split mine materials showed number of pieces by length and top and butt diameters. From these data, gross volume for each product was computed. By incorporating these findings with utilization data collected and summarized in 1953-54, a set of conversion and logging residue factors was prepared for the major products, which are closely in line with present utilization standards of primary wood-using industries.

ACCURACY OF ESTIMATES

The Forest Survey accuracy goal for timber cut estimates is a sampling error of $\pm$ 5 percent per billion cubic feet. This would permit a standard error of nearly 9 percent on the 1954 estimate for the Lake States. The total timber cut figure falls well within this limit. Because some of the component estimates are based on projections, no single sampling error can be given. For accuracy of timber products data (tables 19-25) see discussion of intensity of industry coverage under "Basis for Production Statistics."

SURVEY DEFINITIONS

Timber Products Output (Tables 19-25 incl.).-- The gross volume of a forest product cut from any class of material (live or dead) from both commercial and noncommercial forest lands. Production has been expressed in the following standard units of measure: M.B.F. (thousand board-feet) International 1/4-inch log rule; standard cord, rough-wood basis (4x4x8 ft.); number of pieces; number of lineal feet; and number of cubic feet (inside bark).

Total Timber Cut.--The net volume of live merchantable timber removed from growing stock by logging operations on commercial forest lands during a specific year as timber products and logging residue, expressed in M.B.F. International 1/4-inch log rule, and cubic feet (inside bark).

Timber Cut from Sawtimber Trees.--The net volume (M.B.F. International 1/4-inch rule) of the log portion in softwood trees 9 inches and larger, and hardwood trees 11 inches and larger, d.b.h. (diameter at breast height), removed during logging operations. The cubic foot volume shown includes both the sawlog equivalent plus the volume in tops to a 4-inch minimum (limbwood excluded).

Timber Cut from Poletimber Trees.--The net volume in cubic feet (inside bark) of poletimber trees removed during logging operations. Included in this class are softwood trees ranging from 5.0 to 8.9 inches d.b.h., and hardwood trees from 5.0 to 10.9 inches d.b.h. It includes cubic foot volume found in the tree stems to a minimum top diameter of 4 inches inside bark.

Timber Products from Growing Stock.--The volume of timber products cut from live merchantable sawtimber and poletimber trees (growing stock).

Logging Residue.--The board-foot and cubic foot volume of live merchantable sawtimber and poletimber trees cut or killed by logging on commercial forest land and not converted to timber products; also includes logs and bolts overlooked in the woods or lost in transit.

LIVE MERCHANTABLE TIMBER REMOVED THROUGH CUTTING

BY SPECIES AND STATE, 1954

(Tables 1 - 4)

Table 1.--Timber cut on commercial forest land by species and class of material
Minnesota, 1954

Species	Total timber cut			Sawtimber trees						Poletimber trees		
				Timber products output		Logging residue		Timber cut		Tbr. prod. output	Logging residue	Timber cut
	MBF	MCF	M cds.[1/]	MBF	MCF	MBF	MCF	MBF	MCF	MCF	MCF	MCF
White pine	21,908	4,398	55	21,525	3,451	383	428	21,908	3,879	420	99	519
Red pine	23,652	5,520	69	23,190	3,737	462	447	23,652	4,184	1,190	146	1,336
Jack pine	58,219	28,390	355	57,542	11,276	677	728	58,219	12,004	15,825	561	16,386
Spruce	13,943	17,128	214	13,890	3,086	53	40	13,943	3,126	13,862	140	14,002
Balsam fir	23,561	10,340	129	21,626	4,518	1,935	684	23,561	5,202	5,000	138	5,138
Tamarack	4,266	2,975	37	4,139	847	127	76	4,266	923	2,018	34	2,052
Cedar	4,676	1,858	23	4,518	898	158	97	4,676	995	821	42	863
Hemlock	-	-	-	-	-	-	-	-	-	-	-	-
Total softwoods	150,225	70,609	882	146,430	27,813	3,795	2,500	150,225	30,313	39,136	1,160	40,296
Hard maple	1,914	1,334	17	1,844	442	70	33	1,914	475	847	12	859
Soft maple	1,811	626	8	1,727	315	84	48	1,811	363	254	9	263
Yellow birch	1,480	629	8	1,408	276	72	34	1,480	310	311	8	319
Basswood	10,148	2,785	35	9,563	1,617	585	275	10,148	1,892	823	70	893
Beech	-	-	-	-	-	-	-	-	-	-	-	-
Elm	10,449	4,199	53	9,855	1,894	594	228	10,449	2,122	2,011	66	2,077
Red oak	18,283	8,810	110	17,232	3,463	1,051	379	18,283	3,842	4,814	154	4,968
White oak	4,866	5,503	69	4,734	1,292	132	89	4,866	1,381	4,049	73	4,122
Aspen	44,174	38,766	485	42,479	7,946	1,695	1,627	44,174	9,573	27,487	1,706	29,193
Balsam poplar	535	608	8	535	128	-	11	535	139	445	24	469
Cottonwood	7,185	1,994	25	6,770	1,173	415	183	7,185	1,356	604	34	638
Paper birch	8,595	4,276	53	8,197	1,687	398	238	8,595	1,925	2,236	115	2,351
Ash	3,300	2,350	29	3,183	769	117	60	3,300	829	1,494	27	1,521
Hickory	-	-	-	-	-	-	-	-	-	-	-	-
Cherry	-	-	-	-	-	-	-	-	-	-	-	-
Walnut	248	109	1	234	46	14	5	248	51	57	1	58
Other hardwoods	1,339	1,526	19	1,320	402	19	12	1,339	414	1,102	10	1,112
Total hardwoods	114,327	73,515	920	109,081	21,450	5,246	3,222	114,327	24,672	46,534	2,309	48,843
All species	264,552	144,124	1,802	255,511	49,263	9,041	5,722	264,552	54,985	85,670	3,469	89,139

1/ Direct conversion of cubic feet to standard survey cords (80 cubic feet of solid wood per standard survey cord).

Table 2.--Timber cut on commercial forest land by species and class of material
Wisconsin, 1954

Species	Total timber cut			Sawtimber trees						Poletimber trees		
				Timber products output		Logging residue		Timber cut		Tbr. prod. output	Logging residue	Timber cut
	MBF	MCF	M cds.[1]	MBF	MCF	MBF	MCF	MBF	MCF	MCF	MCF	MCF
White pine	15,740	3,159	39	15,465	2,485	275	309	15,740	2,794	310	56	366
Red pine	10,608	2,127	27	10,423	1,677	185	205	10,608	1,882	207	37	244
Jack pine	16,950	10,355	129	16,892	3,547	58	80	16,950	3,627	6,540	188	6,728
Spruce	1,879	2,232	28	1,870	412	9	6	1,879	418	1,795	19	1,814
Balsam fir	10,598	4,753	59	9,693	2,052	905	316	10,598	2,368	2,323	62	2,385
Tamarack	1,144	776	10	1,119	250	25	17	1,144	267	493	16	509
Cedar	3,804	2,171	27	3,688	812	116	87	3,804	899	1,203	69	1,272
Hemlock	47,008	10,765	135	45,916	8,369	1,092	956	47,008	9,325	1,253	187	1,440
Total softwoods	107,731	36,338	454	105,066	19,604	2,665	1,976	107,731	21,580	14,124	634	14,758
Hard maple	49,800	15,345	192	46,601	9,576	3,199	1,219	49,800	10,795	4,066	484	4,550
Soft maple	15,144	5,302	66	14,225	3,033	919	364	15,144	3,397	1,730	175	1,905
Yellow birch	16,008	3,967	50	15,023	2,775	985	422	16,008	3,197	672	98	770
Basswood	21,555	5,678	71	20,130	3,498	1,425	597	21,555	4,095	1,355	228	1,583
Beech	1,064	326	4	992	225	72	25	1,064	250	68	8	76
Elm	22,822	6,307	79	21,430	4,391	1,392	597	22,822	4,988	1,152	167	1,319
Red oak	74,696	23,938	299	69,680	17,191	5,016	1,699	74,696	18,890	4,520	528	5,048
White oak	12,120	7,230	90	11,490	4,577	630	243	12,120	4,820	2,292	118	2,410
Aspen	32,831	46,417	580	31,951	7,082	880	1,161	32,831	8,243	35,413	2,761	38,174
Balsam poplar	-	-	-	-	-	-	-	-	-	-	-	-
Cottonwood	1,459	548	7	1,378	417	81	36	1,459	453	87	8	95
Paper birch	3,723	3,019	38	3,624	1,316	99	84	3,723	1,400	1,519	100	1,619
Ash	6,477	2,438	30	6,075	1,520	402	153	6,477	1,673	694	71	765
Hickory	3	2	-	3	-	-	-	3	-	2	-	2
Cherry	-	-	-	-	-	-	-	-	-	-	-	-
Walnut	-	-	-	-	-	-	-	-	-	-	-	-
Other hardwoods	589	254	3	566	182	23	16	589	198	53	3	56
Total hardwoods	258,291	120,771	1,509	243,168	55,783	15,123	6,616	258,291	62,399	53,623	4,749	58,372
All species	366,022	157,109	1,963	348,234	75,387	17,788	8,592	366,022	83,979	67,747	5,383	73,130

1/ Direct conversion of cubic feet to standard survey cords (80 cubic feet of solid wood per standard survey cord).

Table 3.--Timber cut on commercial forest land by species and class of material
Michigan, 1954

Species	Total timber cut			Sawtimber trees						Poletimber trees		
				Timber products output		Logging residue		Timber cut		Tbr. prod. output	Logging residue	Timber cut
	MBF	MCF	M cds.[1/]	MBF	MCF	MBF	MCF	MBF	MCF	MCF	MCF	MCF
White pine	18,245	3,551	44	17,926	2,878	319	373	18,245	3,251	240	60	300
Red pine	2,407	481	6	2,359	380	48	49	2,407	429	44	8	52
Jack pine	11,463	4,896	61	11,348	2,258	115	150	11,463	2,408	2,400	88	2,488
Spruce	7,471	8,872	111	7,433	1,628	38	29	7,471	1,657	7,127	88	7,215
Balsam fir	25,345	11,521	144	23,134	4,934	2,211	767	25,345	5,701	5,670	150	5,820
Tamarack	1,890	876	11	1,790	344	100	41	1,890	385	468	23	491
Cedar	9,856	6,597	82	9,321	2,142	535	200	9,856	2,342	4,091	164	4,255
Hemlock	77,967	15,838	198	76,327	13,278	1,640	1,671	77,967	14,949	731	158	889
Total softwoods	154,644	52,632	657	149,638	27,842	5,006	3,280	154,644	31,122	20,771	739	21,510
Hard maple	140,800	30,151	377	131,262	22,983	9,538	4,393	140,800	27,376	2,441	334	2,775
Soft maple	26,880	6,731	84	25,410	4,622	1,470	756	26,880	5,378	1,259	94	1,353
Yellow birch	44,579	9,660	121	41,875	7,090	2,704	1,393	44,579	8,483	936	241	1,177
Basswood	12,632	2,442	31	11,771	1,913	861	418	12,632	2,331	83	28	111
Beech	20,738	4,826	60	19,511	3,514	1,227	653	20,738	4,167	568	91	659
Elm	37,756	9,769	122	35,408	6,605	2,348	1,123	37,756	7,728	1,898	143	2,041
Red oak	33,454	8,253	103	31,215	5,797	2,239	981	33,454	6,778	1,310	165	1,475
White oak	6,404	1,785	22	5,992	1,220	412	170	6,404	1,390	367	28	395
Aspen	43,702	43,588	545	42,306	8,651	1,396	1,277	43,702	9,928	31,801	1,859	33,660
Balsam poplar	193	41	1	179	30	14	6	193	36	4	1	5
Cottonwood	2,885	541	7	2,673	430	212	96	2,885	526	4	11	15
Paper birch	6,319	2,360	30	6,023	1,359	296	150	6,319	1,509	796	55	851
Ash	6,791	1,917	24	6,368	1,235	423	188	6,791	1,423	448	46	494
Hickory	4,795	1,980	25	4,639	1,268	156	78	4,795	1,346	611	23	634
Cherry	423	152	2	404	98	19	8	423	106	44	2	46
Walnut	360	156	2	356	103	4	5	360	108	47	1	48
Other hardwoods	1,321	417	5	1,279	283	42	32	1,321	315	96	6	102
Total hardwoods	390,032	124,769	1,561	366,671	67,201	23,361	11,727	390,032	78,928	42,713	3,128	45,841
All species	544,676	177,401	2,218	516,309	95,043	28,367	15,007	544,676	110,050	63,484	3,867	67,351

1/ Direct conversion of cubic feet to standard survey cords (80 cubic feet of solid wood per standard survey cord).

Table 4.--Timber cut on commercial forest land by species and class of material
Lake States, 1954

Species	Total timber cut			Sawtimber trees						Poletimber trees		
				Timber products output		Logging residue		Timber cut		Tbr. prod. output	Logging residue	Timber cut
	MBF	MCF	M cds.1/	MBF	MCF	MBF	MCF	MBF	MCF	MCF	MCF	MCF
White pine	55,893	11,109	139	54,916	8,814	977	1,110	55,893	9,924	970	215	1,185
Red pine	36,667	8,177	102	35,972	5,794	695	701	36,667	6,495	1,491	191	1,682
Jack pine	86,632	43,641	546	85,782	17,081	850	958	86,632	18,039	24,765	837	25,602
Spruce	23,293	28,182	352	23,193	5,126	100	75	23,293	5,201	22,734	247	22,981
Balsam fir	59,504	26,614	332	54,453	11,504	5,051	1,767	59,504	13,271	12,993	350	13,343
Tamarack	7,300	4,627	58	7,048	1,441	252	134	7,300	1,575	2,979	73	3,052
Cedar	18,336	10,626	132	17,527	3,852	809	384	18,336	4,236	6,115	275	6,390
Hemlock	124,975	26,603	333	122,243	21,647	2,732	2,627	124,975	24,274	1,984	345	2,329
Total softwoods	412,600	159,579	1,994	401,134	75,259	11,466	7,756	412,600	83,015	74,031	2,533	76,564
Hard maple	192,514	46,830	586	179,707	33,001	12,807	5,645	192,514	38,646	7,354	830	8,184
Soft maple	43,835	12,659	158	41,362	7,970	2,473	1,168	43,835	9,138	3,243	278	3,521
Yellow birch	62,067	14,256	179	58,306	10,141	3,761	1,849	62,067	11,990	1,919	347	2,266
Basswood	44,335	10,903	137	41,464	7,028	2,871	1,290	44,335	8,318	2,259	326	2,585
Beech	21,802	5,152	64	20,503	3,739	1,299	678	21,802	4,417	636	99	735
Elm	71,027	20,275	254	66,693	12,890	4,334	1,948	71,027	14,838	5,061	376	5,437
Red oak	126,433	41,001	512	118,127	26,451	8,306	3,059	126,433	29,510	10,644	847	11,491
White oak	23,390	14,518	181	22,216	7,089	1,174	502	23,390	7,591	6,708	219	6,927
Aspen	120,707	128,773	1,610	116,736	23,679	3,971	4,065	120,707	27,744	94,703	6,326	101,029
Balsam poplar	728	649	8	714	158	14	17	728	175	449	25	474
Cottonwood	11,529	3,083	39	10,821	2,020	708	315	11,529	2,335	695	53	748
Paper birch	18,637	9,655	121	17,844	4,362	793	472	18,637	4,834	4,551	270	4,821
Ash	16,568	6,705	83	15,626	3,524	942	401	16,568	3,925	2,636	144	2,780
Hickory	4,798	1,982	25	4,642	1,268	156	78	4,798	1,346	613	23	636
Cherry	423	152	2	404	98	19	8	423	106	44	2	46
Walnut	608	265	3	590	149	18	10	608	159	104	2	106
Other hardwoods	3,249	2,197	27	3,165	867	84	60	3,249	927	1,251	19	1,270
Total hardwoods	762,650	319,055	3,989	718,920	144,434	43,730	21,565	762,650	165,999	142,870	10,186	153,056
All species	1,175,250	478,634	5,983	1,120,054	219,693	55,196	29,321	1,175,250	249,014	216,901	12,719	229,620

1/ Direct conversion of cubic feet to standard survey cords (80 cubic feet of solid wood per standard survey cord).

LIVE MERCHANTABLE TIMBER REMOVED THROUGH CUTTING BY SPECIES

AND STATE, FOR INDIVIDUAL PRODUCTS, 1954

(Tables 5 - 18)

Table 5.--Net timber cut resulting from harvesting sawlogs and sawbolts, Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	21,664	4,300	21,664	3,830	470
Wisconsin	15,531	3,066	15,531	2,745	321
Michigan	17,713	3,404	17,713	3,142	262
Total	54,908	10,770	54,908	9,717	1,053
Red pine:					
Minnesota	22,288	5,103	22,288	3,917	1,186
Wisconsin	10,459	2,050	10,459	1,847	203
Michigan	2,229	433	2,229	396	37
Total	34,976	7,586	34,976	6,160	1,426
Jack pine:					
Minnesota	26,431	8,238	26,431	4,763	3,475
Wisconsin	3,323	1,298	3,323	596	702
Michigan	6,143	1,435	6,143	1,108	327
Total	35,897	10,971	35,897	6,467	4,504
Spruce:					
Minnesota	2,934	744	2,934	499	245
Wisconsin	440	116	440	74	42
Michigan	1,912	638	1,912	328	310
Total	5,286	1,498	5,286	901	597
Balsam fir:					
Minnesota	2,201	558	2,201	374	184
Wisconsin	517	137	517	87	50
Michigan	601	199	601	103	96
Total	3,319	894	3,319	564	330
Tamarack:					
Minnesota	734	185	734	124	61
Wisconsin	517	137	517	87	50
Michigan	60	19	60	10	9
Total	1,311	341	1,311	221	120
Cedar:					
Minnesota	1,599	405	1,599	272	133
Wisconsin	1,666	441	1,666	281	160
Michigan	2,830	944	2,830	484	460
Total	6,095	1,790	6,095	1,037	753
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	27,219	5,675	27,219	4,947	728
Michigan	58,336	10,762	58,336	10,586	176
Total	85,555	16,437	85,555	15,533	904
Softwood total:					
Minnesota	77,851	19,533	77,851	13,779	5,754
Wisconsin	59,672	12,920	59,672	10,664	2,256
Michigan	89,824	17,834	89,824	16,157	1,677
Total	227,347	50,287	227,347	40,600	9,687
Maple:					
Minnesota	1,414	280	1,414	243	37
Wisconsin	48,619	10,919	48,619	8,360	2,559
Michigan	132,495	24,676	132,495	23,924	752
Total	182,528	35,875	182,528	32,527	3,348
Birch:					
Minnesota	3,870	903	3,870	667	236
Wisconsin	11,835	2,258	11,835	2,061	197
Michigan	31,454	6,693	31,454	5,767	926
Total	47,159	9,854	47,159	8,495	1,359
Basswood:					
Minnesota	5,936	1,341	5,936	1,028	313
Wisconsin	15,889	3,848	15,889	2,757	1,091
Michigan	10,144	1,903	10,144	1,845	58
Total	31,969	7,092	31,969	5,630	1,462
Elm:					
Minnesota	6,911	1,469	6,911	1,191	278
Wisconsin	14,628	3,363	14,628	2,522	841
Michigan	28,679	5,381	28,679	5,217	164
Total	50,218	10,213	50,218	8,930	1,283
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	894	201	894	154	47
Michigan	12,757	2,394	12,757	2,321	73
Total	13,651	2,595	13,651	2,475	120
Oak:					
Minnesota	14,717	3,355	14,717	2,534	821
Wisconsin	69,853	14,474	69,853	12,049	2,425
Michigan	32,206	6,526	32,206	5,833	693
Total	116,776	24,355	116,776	20,416	3,939
Aspen:					
Minnesota	18,462	6,851	18,462	3,377	3,474
Wisconsin	10,498	8,976	10,498	1,803	7,173
Michigan	21,794	6,732	21,794	3,779	2,953
Total	50,754	22,559	50,754	8,959	13,600
Cottonwood:					
Minnesota	4,323	803	4,323	744	59
Wisconsin	889	157	889	154	3
Michigan	2,623	485	2,623	476	9
Total	7,835	1,445	7,835	1,374	71
Miscellaneous:					
Minnesota	1,519	349	1,519	261	88
Wisconsin	5,014	1,127	5,014	863	264
Michigan	7,948	1,856	7,948	1,441	415
Total	14,481	3,332	14,481	2,565	767
Hardwood total:					
Minnesota	57,152	15,351	57,152	10,045	5,306
Wisconsin	178,119	45,323	178,119	30,723	14,600
Michigan	280,100	56,646	280,100	50,603	6,043
Total	515,371	117,320	515,371	91,371	25,949
All species:					
Minnesota	135,003	34,884	135,003	23,824	11,060
Wisconsin	237,791	58,243	237,791	41,387	16,856
Michigan	369,924	74,480	369,924	66,760	7,720
Total	742,718	167,607	742,718	131,971	35,636

Table 6.--Net timber cut resulting from harvesting veneer logs
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	13	2	13	2	-
Wisconsin	40	7	40	7	-
Michigan	322	60	322	59	1
Total	375	69	375	68	1
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	2	-	2	-	-
Michigan	-	-	-	-	-
Total	2	-	2	-	-
Softwood total:					
Minnesota	13	2	13	2	-
Wisconsin	42	7	42	7	-
Michigan	322	60	322	59	1
Total	377	69	377	68	1
Maple:					
Minnesota	1,137	213	1,137	208	5
Wisconsin	8,053	1,501	8,053	1,470	31
Michigan	12,478	2,328	12,478	2,280	48
Total	21,668	4,042	21,668	3,958	84
Birch:					
Minnesota	852	158	852	155	3
Wisconsin	4,346	811	4,346	794	17
Michigan	12,739	2,376	12,739	2,327	49
Total	17,937	3,345	17,937	3,276	69
Basswood:					
Minnesota	3,378	630	3,378	617	13
Wisconsin	3,946	735	3,946	720	15
Michigan	2,206	411	2,206	403	8
Total	9,530	1,776	9,530	1,740	36
Elm:					
Minnesota	1,545	288	1,545	282	6
Wisconsin	6,717	1,252	6,717	1,226	26
Michigan	2,607	486	2,607	476	10
Total	10,869	2,026	10,869	1,984	42
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	95	17	95	17	-
Michigan	3,245	605	3,245	592	13
Total	3,340	622	3,340	609	13
Oak:					
Minnesota	1,231	230	1,231	225	5
Wisconsin	3,678	686	3,678	672	14
Michigan	766	142	766	139	3
Total	5,675	1,058	5,675	1,036	22
Aspen:					
Minnesota	56	10	56	10	-
Wisconsin	101	18	101	18	-
Michigan	148	27	148	27	-
Total	305	55	305	55	-
Cottonwood:					
Minnesota	2,299	429	2,299	420	9
Wisconsin	307	57	307	56	1
Michigan	177	32	177	32	-
Total	2,783	518	2,783	508	10
Miscellaneous:					
Minnesota	243	46	243	45	1
Wisconsin	773	145	773	142	3
Michigan	1,021	190	1,021	187	3
Total	2,037	381	2,037	374	7
Hardwood total:					
Minnesota	10,741	2,004	10,741	1,962	42
Wisconsin	28,016	5,222	28,016	5,115	107
Michigan	35,387	6,597	35,387	6,463	134
Total	74,144	13,823	74,144	13,540	283
All species:					
Minnesota	10,754	2,006	10,754	1,964	42
Wisconsin	28,058	5,229	28,058	5,122	107
Michigan	35,709	6,657	35,709	6,522	135
Total	74,521	13,892	74,521	13,608	284

Table 7.--Net timber cut resulting from harvesting heading stock
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Totalj	-	-	-	-	-
Softwood total:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	409	117	409	87	30
Michigan	-	-	-	-	-
Total	409	117	409	87	30

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
Birch:					
Minnesota	-	-	-	-	-
Wisconsin	29	8	29	6	2
Michigan	138	40	138	30	10
Total	167	48	167	36	12
Basswood:					
Minnesota	34	10	34	7	3
Wisconsin	1,017	291	1,017	217	74
Michigan	15	4	15	3	1
Total	1,066	305	1,066	227	78
Elm:					
Minnesota	10	3	10	2	1
Wisconsin	131	38	131	28	10
Michigan	-	-	-	-	-
Total	141	41	141	30	11
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota	76	22	76	16	6
Wisconsin	35	10	35	7	3
Michigan	-	-	-	-	-
Total	111	32	111	23	9
Aspen:					
Minnesota	741	212	741	158	54
Wisconsin	3,011	863	3,011	642	221
Michigan	179	51	179	38	13
Total	3,931	1,126	3,931	838	288
Cottonwood:					
Minnesota	10	3	10	2	1
Wisconsin	36	11	36	8	3
Michigan	85	24	85	18	6
Total	131	38	131	28	10
Miscellaneous:					
Minnesota	227	65	227	48	17
Wisconsin	256	74	256	55	19
Michigan	-	-	-	-	-
Total	483	139	483	103	36
Hardwood total:					
Minnesota	1,098	315	1,098	233	82
Wisconsin	4,924	1,412	4,924	1,050	362
Michigan	417	119	417	89	30
Total	6,439	1,846	6,439	1,372	474
All species:					
Minnesota	1,098	315	1,098	233	82
Wisconsin	4,924	1,412	4,924	1,050	362
Michigan	417	119	417	89	30
Total	6,439	1,846	6,439	1,372	474

Table 8.--Net timber cut resulting from harvesting pulpwood bolts and logs
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota	25,245	16,687	25,245	5,990	10,697
Wisconsin	13,372	8,839	13,372	2,946	5,893
Michigan	5,085	3,363	5,085	1,251	2,112
Total	43,702	28,889	43,702	10,187	18,702
Spruce:					
Minnesota	10,881	16,321	10,881	2,602	13,719
Wisconsin	1,398	2,096	1,398	334	1,762
Michigan	5,465	8,197	5,465	1,307	6,890
Total	17,744	26,614	17,744	4,243	22,371
Balsam fir:					
Minnesota	21,175	9,700	21,175	4,791	4,909
Wisconsin	10,004	4,584	10,004	2,264	2,320
Michigan	24,559	11,251	24,559	5,557	5,694
Total	55,738	25,535	55,738	12,612	12,923
Tamarack:					
Minnesota	337	506	337	81	425
Wisconsin	192	288	192	46	242
Michigan	28	43	28	7	36
Total	557	837	557	134	703
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	19,602	4,996	19,602	4,332	664
Michigan	19,189	4,892	19,189	4,272	620
Total	38,791	9,888	38,791	8,604	1,284
Softwood total:					
Minnesota	57,638	43,214	57,638	13,464	29,750
Wisconsin	44,568	20,803	44,568	9,922	10,881
Michigan	54,326	27,746	54,326	12,394	15,352
Total	156,532	91,763	156,532	35,780	55,983
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	3,075	3,321	3,075	738	2,583
Michigan	668	721	668	158	563
Total	3,743	4,042	3,743	896	3,146
Birch:					
Minnesota	88	95	88	21	74
Wisconsin	2,031	2,193	2,031	487	1,706
Michigan	398	428	398	95	333
Total	2,517	2,716	2,517	603	2,113
Basswood:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	8	8	8	2	6
Total	8	8	8	2	6
Elm:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	1,141	1,232	1,141	274	958
Total	1,141	1,232	1,141	274	958
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	106	113	106	25	88
Total	106	113	106	25	88
Oak:					
Minnesota	-	-	-	-	-
Wisconsin	268	289	268	64	225
Michigan	60	66	60	14	52
Total	328	355	328	78	277
Aspen:					
Minnesota	11,166	20,049	11,166	3,045	17,004
Wisconsin	15,326	27,517	15,326	4,180	23,337
Michigan	17,767	31,899	17,767	4,845	27,054
Total	44,259	79,465	44,259	12,070	67,395
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota	430	464	430	103	361
Wisconsin	300	324	300	72	252
Michigan	-	-	-	-	-
Total	730	788	730	175	613
Hardwood total:					
Minnesota	11,684	20,608	11,684	3,169	17,439
Wisconsin	21,000	33,644	21,000	5,541	28,103
Michigan	20,148	34,467	20,148	5,413	29,054
Total	52,832	88,719	52,832	14,123	74,596
All Species:					
Minnesota	69,322	63,822	69,322	16,633	47,189
Wisconsin	65,568	54,447	65,568	15,463	38,984
Michigan	74,474	62,213	74,474	17,807	44,406
Total	209,364	180,482	209,364	49,903	130,579

Table 9.--Net timber cut resulting from harvesting fuelwood
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	3	17	3	1	16
Wisconsin	25	39	25	13	26
Michigan	-	10	-	7	3
Total	28	66	28	21	45
Red pine:					
Minnesota	5	34	5	1	33
Wisconsin	25	39	25	13	26
Michigan	-	-	-	-	-
Total	30	73	30	14	59
Jack pine:					
Minnesota	253	1,732	253	55	1,677
Wisconsin	100	154	100	52	102
Michigan	-	-	-	-	-
Total	353	1,886	353	107	1,779
Spruce:					
Minnesota	4	24	4	1	23
Wisconsin	5	8	5	3	5
Michigan	-	4	-	3	1
Total	9	36	9	7	29
Balsam fir:					
Minnesota	3	21	3	1	20
Wisconsin	5	8	5	3	5
Michigan	-	5	-	4	1
Total	8	34	8	8	26
Tamarack:					
Minnesota	152	1,042	152	33	1,009
Wisconsin	50	77	50	26	51
Michigan	-	8	-	6	2
Total	202	1,127	202	65	1,062
Cedar:					
Minnesota	1	7	1	-	7
Wisconsin	25	39	25	13	26
Michigan	-	26	-	18	8
Total	26	72	26	31	41
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	25	39	25	13	26
Michigan	-	5	-	3	2
Total	25	44	25	16	28
Softwood total:					
Minnesota	421	2,877	421	92	2,785
Wisconsin	260	403	260	136	267
Michigan	-	58	-	41	17
Total	681	3,338	681	269	3,069
Maple:					
Minnesota	1,048	1,438	1,048	361	1,077
Wisconsin	3,000	4,260	3,000	3,125	1,135
Michigan	11,726	6,362	11,726	4,130	2,232
Total	15,774	12,060	15,774	7,616	4,444
Birch:					
Minnesota	2,068	2,836	2,068	711	2,125
Wisconsin	1,125	1,599	1,125	1,171	428
Michigan	2,952	1,600	2,952	1,039	561
Total	6,145	6,035	6,145	2,921	3,114
Basswood:					
Minnesota	530	727	530	182	545
Wisconsin	300	428	300	313	115
Michigan	169	91	169	59	32
Total	999	1,246	999	554	692
Elm:					
Minnesota	1,733	2,377	1,733	596	1,781
Wisconsin	1,125	1,599	1,125	1,171	428
Michigan	4,563	2,477	4,563	1,607	870
Total	7,421	6,453	7,421	3,374	3,079
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	75	108	75	79	29
Michigan	1,535	833	1,535	541	292
Total	1,610	941	1,610	620	321
Oak:					
Minnesota	6,101	8,369	6,101	2,098	6,271
Wisconsin	9,773	13,275	9,773	10,140	3,135
Michigan	5,352	2,906	5,352	1,887	1,019
Total	21,226	24,550	21,226	14,125	10,425
Aspen:					
Minnesota	1,734	8,147	1,734	416	7,731
Wisconsin	1,625	5,322	1,625	1,072	4,250
Michigan	2,609	2,226	2,609	891	1,335
Total	5,968	15,695	5,968	2,379	13,316
Cottonwood:					
Minnesota	553	758	553	190	568
Wisconsin	225	321	225	235	86
Michigan	-	-	-	-	-
Total	778	1,079	778	425	654
Miscellaneous:					
Minnesota	2,569	3,523	2,569	884	2,639
Wisconsin	705	1,002	705	734	268
Michigan	4,738	2,570	4,738	1,668	902
Total	8,012	7,095	8,012	3,286	3,809
Hardwood total:					
Minnesota	16,336	28,175	16,336	5,438	22,737
Wisconsin	17,953	27,914	17,953	18,040	9,874
Michigan	33,644	19,065	33,644	11,822	7,243
Total	67,933	75,154	67,933	35,300	39,854
All species:					
Minnesota	16,757	31,052	16,757	5,530	25,522
Wisconsin	18,213	28,317	18,213	18,176	10,141
Michigan	33,644	19,123	33,644	11,863	7,260
Total	68,614	78,492	68,614	35,569	42,923

Table 10.--Net timber cut resulting from harvesting logs for piling
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota	424	76	424	76	-
Wisconsin	23	4	23	4	-
Michigan	68	12	68	12	-
Total	515	92	515	92	-
Jack pine:					
Minnesota	359	65	359	65	-
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	359	65	359	65	-
Spruce:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	12	2	12	2	-
Total	12	2	12	2	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Softwood total:					
Minnesota	783	141	783	141	-
Wisconsin	23	4	23	4	-
Michigan	80	14	80	14	-
Total	886	159	886	159	-
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	9	2	9	2	-
Michigan	171	31	171	31	-
Total	180	33	180	33	-
Birch:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota	-	-	-	-	-
Wisconsin	179	32	179	32	-
Michigan	277	50	277	50	-
Total	456	82	456	82	-
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota	-	-	-	-	-
Wisconsin	55	10	55	10	-
Michigan	1,064	192	1,064	192	-
Total	1,119	202	1,119	202	-
Aspen:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota	-	-	-	-	-
Wisconsin	1	-	1	-	-
Michigan	94	16	94	16	-
Total	95	16	95	16	-
Hardwood total:					
Minnesota	-	-	-	-	-
Wisconsin	244	44	244	44	-
Michigan	1,606	289	1,606	289	-
Total	1,850	333	1,850	333	-
All species:					
Minnesota	783	141	783	141	-
Wisconsin	267	48	267	48	-
Michigan	1,686	303	1,686	303	-
Total	2,736	492	2,736	492	-

Table 11.--Net timber cut resulting from harvesting chemical wood
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Softwood total:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	800	231	800	203	28
Michigan	3,923	1,131	3,923	995	136
Total	4,723	1,362	4,723	1,198	164
Birch:					
Minnesota	-	-	-	-	-
Wisconsin	45	13	45	11	2
Michigan	1,777	512	1,777	451	61
Total	1,822	525	1,822	462	63
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	59	17	59	15	2
Total	59	17	59	15	2
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	798	230	798	202	28
Total	798	230	798	202	28
Oak:					
Minnesota	-	-	-	-	-
Wisconsin	420	121	420	106	15
Michigan	65	19	65	17	2
Total	485	140	485	123	17
Aspen:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota					
Wisconsin					
Michigan	77	22	77	20	2
Total	77	22	77	20	2
Hardwood total:					
Minnesota	-	-	-	-	-
Wisconsin	1,265	365	1,265	320	45
Michigan	6,699	1,931	6,699	1,700	231
Total	7,964	2,296	7,964	2,020	276
All species:					
Minnesota	-	-	-	-	-
Wisconsin	1,265	365	1,265	320	45
Michigan	6,699	1,931	6,699	1,700	231
Total	7,964	2,296	7,964	2,020	276

Table 12.--Net timber cut resulting from harvesting excelsior bolts
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Softwood total:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Maple:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Birch:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Basswood:					
Minnesota	-	-	-	-	-
Wisconsin	71	288	71	19	269
Michigan	-	-	-	-	-
Total	71	288	71	19	269
Elm:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Aspen:					
Minnesota	-	-	-	-	-
Wisconsin	803	3,252	803	210	3,042
Michigan	609	2,466	609	218	2,248
Total	1,412	5,718	1,412	428	5,290
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hardwood total:					
Minnesota	-	-	-	-	-
Wisconsin	874	3,540	874	229	3,311
Michigan	609	2,466	609	218	2,248
Total	1,483	6,006	1,483	447	5,559
All species:					
Minnesota	-	-	-	-	-
Wisconsin	874	3,540	874	229	3,311
Michigan	609	2,466	609	218	2,248
Total	1,483	6,006	1,483	447	5,559

Table 13.--Net timber cut resulting from harvesting fenceposts
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	12	10	12	4	6
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	12	10	12	4	6
Red pine:					
Minnesota	85	73	85	29	44
Wisconsin	3	4	3	1	3
Michigan	-	-	-	-	-
Total	88	77	88	30	47
Jack pine:					
Minnesota	113	97	113	38	59
Wisconsin	11	17	11	5	12
Michigan	19	27	19	7	20
Total	143	141	143	50	91
Spruce:					
Minnesota	2	1	2	-	1
Wisconsin	-	-	-	-	-
Michigan	3	4	3	1	3
Total	5	5	5	1	4
Balsam fir:					
Minnesota	2	2	2	1	1
Wisconsin	-	-	-	-	-
Michigan	5	7	5	2	5
Total	7	9	7	3	6
Tamarack:					
Minnesota	650	561	650	220	341
Wisconsin	128	201	128	55	146
Michigan	15	21	15	5	16
Total	793	783	793	280	503
Cedar:					
Minnesota	896	773	896	303	470
Wisconsin	819	1,287	819	351	936
Michigan	2,781	3,965	2,781	1,006	2,959
Total	4,496	6,025	4,496	1,660	4,365
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	5	8	5	2	6
Michigan	-	-	-	-	-
Total	5	8	5	2	6
Softwood total:					
Minnesota	1,760	1,517	1,760	595	922
Wisconsin	966	1,517	966	414	1,103
Michigan	2,823	4,024	2,823	1,021	3,003
Total	5,549	7,058	5,549	2,030	5,028
Maple:					
Minnesota	1	3	1	-	3
Wisconsin	29	31	29	8	23
Michigan	2	2	2	0	2
Total	32	36	32	8	28
Birch:					
Minnesota	-	-	-	-	-
Wisconsin	21	21	21	5	16
Michigan	-	-	-	-	-
Total	21	21	21	5	16
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota	5	13	5	2	11
Wisconsin	17	17	17	4	13
Michigan	7	12	7	3	9
Total	29	42	29	9	33
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota	968	2,322	968	338	1,984
Wisconsin	2,020	2,164	2,020	529	1,635
Michigan	66	111	66	28	83
Total	3,054	4,597	3,054	895	3,702
Aspen:					
Minnesota	-	53	-	4	49
Wisconsin	67	68	67	19	49
Michigan	10	20	10	5	15
Total	77	141	77	28	113
Cottonwood:					
Minnesota	-	1	-	-	1
Wisconsin	2	2	2	0	2
Michigan	-	-	-	-	-
Total	2	3	2	0	3
Miscellaneous:					
Minnesota	26	63	26	9	54
Wisconsin	20	22	20	5	17
Michigan	5	9	5	2	7
Total	51	94	51	16	78
Hardwood total:					
Minnesota	1,000	2,455	1,000	353	2,102
Wisconsin	2,176	2,325	2,176	570	1,755
Michigan	90	154	90	38	116
Total	3,266	4,934	3,266	961	3,973
All species:					
Minnesota	2,760	3,972	2,760	948	3,024
Wisconsin	3,142	3,842	3,142	984	2,858
Michigan	2,913	4,178	2,913	1,059	3,119
Total	8,815	11,992	8,815	2,991	9,001

Table 14.--Net timber cut resulting from harvesting utility poles
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota	561	144	561	103	41
Wisconsin	26	6	26	4	2
Michigan	-	-	-	-	-
Total	587	150	587	107	43
Jack pine:					
Minnesota	3,636	930	3,636	664	266
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	3,636	930	3,636	664	266
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota	412	105	412	75	30
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	412	105	412	75	30
Cedar:					
Minnesota	917	294	917	172	122
Wisconsin	523	168	523	98	70
Michigan	493	158	493	92	66
Total	1,933	620	1,933	362	258
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Softwood total:					
Minnesota	5,526	1,473	5,526	1,014	459
Wisconsin	549	174	549	102	72
Michigan	493	158	493	92	66
Total	6,568	1,805	6,568	1,208	597
Maple:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Birch:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota					
Wisconsin					
Michigan					
Total					
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Aspen:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hardwood total:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
All species:					
Minnesota	5,526	1,473	5,526	1,014	459
Wisconsin	549	174	549	102	72
Michigan	493	158	493	92	66
Total	6,568	1,805	6,568	1,208	597

Table 15.--Net timber cut resulting from harvesting hewn ties
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	3	1	3	1	-
Total	3	1	3	1	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota	51	17	51	10	7
Wisconsin	8	2	8	1	1
Michigan	8	3	8	2	1
Total	67	22	67	13	9
Cedar:					
Minnesota	51	17	51	10	7
Wisconsin	19	6	19	4	2
Michigan	119	39	119	23	16
Total	189	62	189	37	25
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	5	2	5	1	1
Michigan	14	5	14	3	2
Total	19	7	19	4	3
Softwood total:					
Minnesota	102	34	102	20	14
Wisconsin	32	10	32	6	4
Michigan	144	48	144	29	19
Total	278	92	278	55	37
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	3	1	3	1	-
Michigan	64	18	64	14	4
Total	67	19	67	15	4

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
Birch:					
Minnesota	7	2	7	1	1
Wisconsin	-	-	-	-	-
Michigan	34	10	34	8	2
Total	41	12	41	9	3
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Aspen:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota	3	1	3	1	-
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	3	1	3	1	-
Hardwood total:					
Minnesota	10	3	10	2	1
Wisconsin	3	1	3	1	-
Michigan	98	28	98	22	6
Total	111	32	111	25	7
All species:					
Minnesota	112	37	112	22	15
Wisconsin	35	11	35	7	4
Michigan	242	76	242	51	25
Total	389	124	389	80	44

Table 16.--Net timber cut resulting from harvesting mine materials
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	36	10	36	7	3
Wisconsin	-	-	-	-	-
Michigan	68	31	68	14	17
Total	104	41	104	21	20
Red pine:					
Minnesota	145	42	145	29	13
Wisconsin	-	-	-	-	-
Michigan	2	1	2	-	1
Total	147	43	147	29	14
Jack pine:					
Minnesota	1,858	535	1,858	366	169
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	1,858	535	1,858	366	169
Spruce:					
Minnesota	50	14	50	10	4
Wisconsin	-	-	-	-	-
Michigan	4	2	4	1	1
Total	54	16	54	11	5
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota	1,858	535	1,858	366	169
Wisconsin	213	59	213	45	14
Michigan	1,707	758	1,707	341	417
Total	3,778	1,352	3,778	752	600
Cedar:					
Minnesota	888	256	888	175	81
Wisconsin	320	88	320	68	20
Michigan	2,371	1,053	2,371	474	579
Total	3,579	1,397	3,579	717	680
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	78	21	78	16	5
Michigan	297	131	297	59	72
Total	375	152	375	75	77
Softwood total:					
Minnesota	4,835	1,392	4,835	953	439
Wisconsin	611	168	611	129	39
Michigan	4,449	1,976	4,449	889	1,087
Total	9,895	3,536	9,895	1,971	1,565
Maple:					
Minnesota	125	26	125	26	-
Wisconsin	137	32	137	25	7
Michigan	4,244	1,066	4,244	813	253
Total	4,506	1,124	4,506	864	260
Birch:					
Minnesota	40	8	40	8	-
Wisconsin	74	18	74	14	4
Michigan	1,189	299	1,189	228	71
Total	1,303	325	1,303	250	75
Basswood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Elm:					
Minnesota	245	49	245	49	-
Wisconsin	25	6	25	5	1
Michigan	197	50	197	38	12
Total	467	105	467	92	13
Beech:					
Mineesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	226	57	226	44	13
Total	226	57	226	44	13
Oak:					
Minnesota	-	-	-	-	-
Wisconsin	20	5	20	4	1
Michigan	52	13	52	10	3
Total	72	18	72	14	4
Aspen:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota	405	82	405	82	-
Wisconsin	-	-	-	-	-
Michigan	-	-	-	-	-
Total	405	82	405	82	-
Hardwood total:					
Minnesota	815	165	815	165	-
Wisconsin	256	61	256	48	13
Michigan	5,908	1,485	5,908	1,133	352
Total	6,979	1,711	6,979	1,346	365
All species:					
Minnesota	5,650	1,557	5,650	1,118	439
Wisconsin	867	229	867	177	52
Michigan	10,357	3,461	10,357	2,022	1,439
Total	16,874	5,247	16,874	3,317	1,930

Table 17.--Net timber cut resulting from harvesting cooperage logs and bolts
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Red pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Jack pine:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Spruce:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Balsam fir:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Tamarack:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Cedar:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hemlock:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Softwood total:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Maple:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Birch:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Basswood:					
Minnesota					
Wisconsin	62	11	62	11	-
Michigan					
Total	62	11	62	11	-
Elm:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Beech:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Oak:					
Minnesota	11	2	11	2	-
Wisconsin	649	121	649	119	2
Michigan	-	-	-	-	-
Total	660	123	660	121	2
Aspen:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	5	1	5	1	-
Total	5	1	5	1	-
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hardwood total:					
Minnesota	11	2	11	2	-
Wisconsin	711	132	711	130	2
Michigan	5	1	5	1	-
Total	727	135	727	133	2
All species:					
Minnesota	11	2	11	2	-
Wisconsin	711	132	711	130	2
Michigan	5	1	5	1	-
Total	727	135	727	133	2

Table 18.--Net timber cut resulting from harvesting miscellaneous forest products
Lake States, 1954

Species and State	Net timber drain by size classes				
	Total		Sawtimber trees		Poletimber trees
	M bd.-ft.	M cu. ft.	M bd.-ft.	M cu. ft.	M cu. ft.
White pine:					
Minnesota	180	59	180	35	24
Wisconsin	144	47	144	28	19
Michigan	142	46	142	29	17
Total	466	152	466	92	60
Red pine:					
Minnesota	144	47	144	28	19
Wisconsin	72	24	72	14	10
Michigan	108	35	108	21	14
Total	324	106	324	63	43
Jack pine:					
Minnesota	324	106	324	63	43
Wisconsin	144	47	144	28	19
Michigan	216	71	216	42	29
Total	684	224	684	133	91
Spruce:					
Minnesota	72	24	72	14	10
Wisconsin	36	12	36	7	5
Michigan	72	24	72	14	10
Total	180	60	180	35	25
Balsam fir:					
Minnesota	180	59	180	35	24
Wisconsin	72	24	72	14	10
Michigan	180	59	180	35	24
Total	432	142	432	84	58
Tamarack:					
Minnesota	72	24	72	14	10
Wisconsin	36	12	36	7	5
Michigan	72	24	72	14	10
Total	180	60	180	35	25
Cedar:					
Minnesota	324	106	324	63	43
Wisconsin	432	142	432	84	58
Michigan	1,262	412	1,262	245	167
Total	2,018	660	2,018	392	268
Hemlock:					
Minnesota	-	-	-	-	-
Wisconsin	72	24	72	14	10
Michigan	131	43	131	26	17
Total	203	67	203	40	27
Softwood total:					
Minnesota	1,296	425	1,296	252	173
Wisconsin	1,008	332	1,008	196	136
Michigan	2,183	714	2,183	426	288
Total	4,487	1,471	4,487	874	597
Maple:					
Minnesota	-	-	-	-	-
Wisconsin	810	232	810	173	59
Michigan	1,909	547	1,909	409	138
Total	2,719	779	2,719	582	197
Birch:					
Minnesota	3,150	903	3,150	672	231
Wisconsin	225	65	225	48	17
Michigan	217	62	217	47	15
Total	3,592	1,030	3,592	767	263
Basswood:					
Minnesota	270	77	270	58	19
Wisconsin	270	77	270	58	19
Michigan	90	25	90	19	6
Total	630	179	630	135	44
Elm:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	226	64	226	48	16
Total	226	64	226	48	16
Beech:					
Minnesota	-	-	-	-	-
Wisconsin	-	-	-	-	-
Michigan	2,071	594	2,071	442	152
Total	2,071	594	2,071	442	152
Oak:					
Minnesota	45	13	45	10	3
Wisconsin	45	13	45	10	3
Michigan	227	63	227	48	15
Total	317	89	317	68	21
Aspen:					
Minnesota	12,015	3,444	12,015	2,563	881
Wisconsin	1,395	400	1,395	298	102
Michigan	586	167	586	125	42
Total	13,996	4,011	13,996	2,986	1,025
Cottonwood:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Miscellaneous:					
Minnesota					
Wisconsin					
Michigan					
Total	-	-	-	-	-
Hardwood total:					
Minnesota	15,480	4,437	15,480	3,303	1,134
Wisconsin	2,745	787	2,745	587	200
Michigan	5,326	1,522	5,326	1,138	384
Total	23,551	6,746	23,551	5,028	1,718
All species:					
Minnesota	16,776	4,862	16,776	3,555	1,307
Wisconsin	3,753	1,119	3,753	783	336
Michigan	7,509	2,236	7,509	1,564	672
Total	28,038	8,217	28,038	5,902	2,315

FOREST PRODUCTS HARVESTED AND IMPORTED BY SPECIES AND STATE

FOR INDIVIDUAL PRODUCTS, 1954

(Tables 19 - 25)

Table 19.--Sawlog and sawbolt production in the Lake States, 1954

(M bd.-ft. International 1/4-inch)

Species and origin	Volume cut and destination			
	Total	Minnesota	Wisconsin	Michigan
White pine:				
Minnesota	23,500	23,500	-	-
Wisconsin	16,840	-	16,770	70
Michigan	18,710	-	2,000	16,710
Total	59,050	23,500	18,770	16,780
Red pine:				
Minnesota	27,580	27,580	-	-
Wisconsin	11,260	-	11,230	30
Michigan	2,370	-	40	2,330
Total	41,210	27,580	11,270	2,360
Jack pine:				
Minnesota	42,910	42,910	-	-
Wisconsin	6,620	-	6,620	-
Michigan	7,600	-	140	7,460
Total	57,130	42,910	6,760	7,460
Spruce				
Minnesota	4,090	4,090	-	-
Wisconsin	640	-	640	-
Michigan	3,380	-	110	3,270
Total	8,110	4,090	750	3,270
Balsam fir:				
Minnesota	3,070	3,070	-	-
Wisconsin	750	-	750	-
Michigan	1,060	-	-	1,060
Total	4,880	3,070	750	1,060
Tamarack:				
Minnesota	1,020	1,020	-	-
Wisconsin	750	-	750	-
Michigan	110	-	-	110
Total	1,880	1,020	750	110
Cedar:				
Minnesota	2,230	2,230	-	-
Wisconsin	2,430	-	2,430	-
Michigan	4,990	-	-	4,990
Total	9,650	2,230	2,430	4,990
Hemlock:				
Minnesota	-	-	-	-
Wisconsin	30,340	-	30,340	-
Michigan	58,810	-	5,720	53,090
Total	89,150	-	36,060	53,090
Softwood total:				
Minnesota	104,400	104,400	-	-
Wisconsin	69,630	-	69,530	100
Michigan	97,030	-	8,010	89,020
Total	271,060	104,400	77,540	89,120
Maple:				
Minnesota	1,490	940	550	-
Wisconsin	56,870	-	56,700	170
Michigan	125,250	-	6,630	118,620
Total	183,610	940	63,880	118,790
Birch:				
Minnesota	4,690	4,690	-	-
Wisconsin	11,980	-	11,820	160
Michigan	33,950	-	4,320	29,630
Total	50,620	4,690	16,140	29,790
Basswood:				
Minnesota	6,940	6,040	900	-
Wisconsin	19,840	-	19,810	30
Michigan	9,660	-	430	9,230
Total	36,440	6,040	21,140	9,260
Elm:				
Minnesota	7,720	7,370	350	-
Wisconsin	17,520	-	17,510	10
Michigan	27,310	-	300	27,010
Total	52,550	7,370	18,160	27,020
Beech:				
Minnesota	-	-	-	-
Wisconsin	1,050	-	1,050	-
Michigan	12,150	-	820	11,330
Total	13,200	-	1,870	11,330
Oak:				
Minnesota	17,480	16,750	730	-
Wisconsin	75,760	-	75,760	-
Michigan	32,960	-	-	32,960
Total	126,200	16,750	76,490	32,960
Aspen:				
Minnesota	32,160	32,160	-	-
Wisconsin	40,070	-	39,770	300
Michigan	33,210	-	2,940	30,270
Total	105,440	32,160	42,710	30,570
Ash:				
Minnesota	1,350	1,340	10	-
Wisconsin	5,690	-	5,690	-
Michigan	6,210	-	-	6,210
Total	13,250	1,340	5,700	6,210
Cottonwood:				
Minnesota	4,250	3,350	900	-
Wisconsin	840	-	840	-
Michigan	2,470	-	-	2,470
Total	7,560	3,350	1,740	2,470
Walnut:				
Minnesota	200	200	-	-
Wisconsin	40	-	40	-
Michigan	260	-	-	260
Total	500	200	40	260
Miscellaneous:				
Minnesota	270	200	70	-
Wisconsin	150	-	150	-
Michigan	2,610	-	60	2,550
Total	3,030	200	280	2,550
Hardwood total:				
Minnesota	76,550	73,040	3,510	-
Wisconsin	229,810	-	229,140	670
Michigan	286,040	-	15,500	270,540
Total	592,400	73,040	248,150	271,210
All species:				
Minnesota	180,950	177,440	3,510	-
Wisconsin	299,440	-	298,670	770
Michigan	383,070	-	23,510	359,560
Total	863,460	177,440	325,690	1/ 360,330

1/ Including log imports from Canada, Michigan lumber output in 1954 was 361,700 M bd.-ft.

Table 20.--Veneer log production and imports in the Lake States, 1954

(M bd.-ft. International 1/4-inch)

Species and origin	Volume cut and destination					Imports		Total Receipts
	Total	Minnesota	Wisconsin	Michigan	Other U. S.	Other U. S.	Canada	
Pine:								
Minnesota	13	7	6	-	-	-	-	7
Wisconsin	39	-	39	-	-	-	7	124
Michigan	311	-	72	239	-	137	36	412
Total	363	7	117	239	-	137	43	543
Hemlock:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	2	-	2	-	-	-	-	2
Michigan	-	-	-	-	-	-	-	-
Total	2	-	2	-	-	-	-	2
Softwoods:								
Minnesota	13	7	6	-	-	-	-	7
Wisconsin	41	-	41	-	-	-	7	126
Michigan	311	-	72	239	-	137	36	412
Total	365	7	119	239	-	137	43	545
Maple:								
Minnesota	1,097	38	1,059	-	-	-	-	38
Wisconsin	7,780	-	7,780	-	-	801	643	17,467
Michigan	12,055	-	7,184	4,734	137	-	169	4,903
Total	20,932	38	16,023	4,734	137	801	812	22,408
Birch:								
Minnesota	823	271	457	95	-	-	-	271
Wisconsin	4,198	-	4,198	-	-	14	5,507	15,862
Michigan	12,307	-	5,686	6,621	-	-	2,168	8,884
Total	17,328	271	10,341	6,716	-	14	7,675	25,017
Basswood:								
Minnesota	3,264	1,088	2,088	88	-	-	-	1,088
Wisconsin	3,813	-	3,813	-	-	1,035	-	7,893
Michigan	2,131	-	957	1,174	-	-	-	1,262
Total	9,208	1,088	6,858	1,262	-	1,035	-	10,243
Elm:								
Minnesota	1,493	409	1,084	-	-	-	-	409
Wisconsin	6,490	-	6,490	-	-	415	-	8,415
Michigan	2,519	-	426	2,084	9	-	1	2,085
Total	10,502	409	8,000	2,084	9	415	1	10,909
Beech:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	92	-	92	-	-	-	-	914
Michigan	3,135	-	822	2,313	-	-	-	2,313
Total	3,227	-	914	2,313	-	-	-	3,227
Oak:								
Minnesota	1,189	-	1,189	-	-	-	-	-
Wisconsin	3,554	-	2,972	582	-	1,010	104	5,540
Michigan	740	-	265	375	100	-	-	957
Total	5,483	-	4,426	957	100	1,010	104	6,497
Aspen:								
Minnesota	54	36	18	-	-	-	-	36
Wisconsin	98	-	98	-	-	-	-	116
Michigan	143	-	-	142	1	-	-	142
Total	295	36	116	142	1	-	-	294
Ash:								
Minnesota	150	116	34	-	-	-	-	116
Wisconsin	435	-	435	-	-	11	-	605
Michigan	297	-	125	167	5	-	-	167
Total	882	116	594	167	5	11	-	888
Cottonwood:								
Minnesota	2,221	249	1,972	-	-	-	-	249
Wisconsin	297	-	297	-	-	-	-	2,269
Michigan	171	-	-	171	-	-	-	171
Total	2,689	249	2,269	171	-	-	-	2,689
Walnut:								
Minnesota	30	-	-	-	30	-	-	-
Wisconsin	-	-	-	-	-	-	-	-
Michigan	108	-	-	-	108	-	-	-
Total	138	-	-	-	138	-	-	-
Butternut:								
Minnesota	4	-	4	-	-	-	-	-
Wisconsin	8	-	8	-	-	-	-	12
Michigan	-	-	-	-	-	-	-	-
Total	12	-	12	-	-	-	-	12
Other: 1/								
Minnesota	51	-	51	-	-	-	-	-
Wisconsin	303	-	303	-	-	-	-	354
Michigan	582	-	-	576	6	-	-	576
Total	936	-	354	576	6	-	-	930
Hardwoods:								
Minnesota	10,376	2,207	7,956	183	30	-	-	2,207
Wisconsin	27,068	-	26,486	582	-	3,286	6,254	59,447
Michigan	34,188	-	15,465	18,357	366	-	2,338	21,460
Total	71,632	2,207	49,907	19,122	396	3,286	8,592	83,114
All species:								
Minnesota	10,389	2,214	7,962	183	30	-	-	2,214
Wisconsin	27,109	-	26,527	582	-	3,286	6,261	59,573
Michigan	34,499	-	15,537	18,596	366	137	2,374	21,872
Total	71,997	2,214	50,026	19,361	396	3,423	8,635	83,659

1/ Ash, yellow-poplar, sycamore.

Table 21.--Pulpwood production and imports in the Lake States, 1954

(Standard cords)

Species and origin	Volume cut and destination					Imports		Total Receipts
	Total	Minnesota	Wisconsin	Michigan	Other U. S.	Other U. S.	Canada	
Jack pine:								
Minnesota	213,937	117,554	96,383	-	-	-	43,873	162,437
Wisconsin	113,317	1,010	112,307	-	-	49,244	33,316	297,841
Michigan	43,161	-	6,591	36,570	-	-	-	36,570
Total	370,415	118,564	215,281	36,570	-	49,244	77,189	496,848
Spruce:								
Minnesota	236,536	141,187	91,751	3,598	-	-	29,837	171,024
Wisconsin	30,385	-	30,385	-	-	17,845	377,566	607,784
Michigan	118,775	-	90,237	28,538	-	-	65,128	97,264
Total	385,696	141,187	212,373	32,136	-	17,845	472,531	876,072
Balsam fir:								
Minnesota	118,292	51,704	66,469	119	-	-	259	51,963
Wisconsin	55,891	-	55,855	36	-	-	1,628	228,574
Michigan	137,259	-	104,622	32,637	-	-	20,332	53,124
Total	311,442	51,704	226,946	32,792	-	-	22,219	333,661
Tamarack:								
Minnesota	7,319	6,421	898	-	-	-	-	6,421
Wisconsin	4,179	-	4,179	-	-	-	-	5,595
Michigan	518	-	518	-	-	-	-	-
Total	12,016	6,421	5,595	-	-	-	-	12,016
Hemlock:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	63,234	-	63,234	-	-	-	-	124,905
Michigan	61,900	-	61,671	229	-	-	-	229
Total	125,134	-	124,905	229	-	-	-	125,134
Softwood total:								
Minnesota	576,084	316,866	255,501	3,717	-	-	73,969	391,845
Wisconsin	267,006	1,010	265,960	36	-	67,089	412,510	1,264,699
Michigan	361,613	-	263,639	97,974	-	-	85,460	187,187
Total	1,204,703	317,876	785,100	101,727	-	67,089	571,939	1,843,731
Maple:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	41,000	-	41,000	-	-	-	-	41,000
Michigan	9,003	-	-	9,003	-	90	-	9,093
Total	50,003	-	41,000	9,003	-	90	-	50,093

Table 21.- Continued.

(Standard cords)

Species and origin	Volume cut and destination					Imports		Total Receipts
	Total	Minnesota	Wisconsin	Michigan	Other U. S.	Other U. S.	Canada	
Birch:								
Minnesota	1,171	17	1,154	-	-	-	-	17
Wisconsin	27,075	-	27,075	-	-	-	6,325	39,821
Michigan	5,267	-	5,267	-	-	-	-	-
Total	33,513	17	33,496	-	-	-	6,325	39,838
Elm:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	-	-	-	-	-	-	-	-
Michigan	15,157	-	-	15,157	-	-	-	15,157
Total	15,157	-	-	15,157	-	-	-	15,157
Oak:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	3,572	-	3,572	-	-	-	-	3,572
Michigan	824	-	-	824	-	-	-	824
Total	4,396	-	3,572	824	-	-	-	4,396
Aspen:								
Minnesota	259,511	1/ 246,131	13,380	-	-	-	36,191	294,743
Wisconsin	348,315	12,421	335,894	-	-	-	10,350	566,081
Michigan	403,806	-	206,457	185,173	12,176	-	13,156	198,329
Total	1,011,632	258,552	555,731	185,173	12,176	-	59,697	1,059,153
Other:								
Minnesota	-	-	-	-	-	-	-	-
Wisconsin	4,000	-	4,000	-	-	-	-	4,000
Michigan	1,422	-	-	1,422	-	-	-	1,422
Total	5,422	-	4,000	1,422	-	-	-	5,422
Hardwood total:								
Minnesota	260,682	246,148	14,534	-	-	-	36,191	294,760
Wisconsin	423,962	12,421	411,541	-	-	-	16,675	654,474
Michigan	435,479	-	211,724	211,579	12,176	90	13,156	224,825
Total	1,120,123	258,569	637,799	211,579	12,176	90	66,022	1,174,059
All species:								
Minnesota	836,766	563,014	270,035	3,717	-	-	110,160	686,605
Wisconsin	690,968	13,431	677,501	36	-	67,089	429,185	1,919,173
Michigan	797,092	-	475,363	309,553	12,176	90	98,616	412,012
Total	2,324,826	576,445	1,422,899	313,306	12,176	67,179	637,961	3,017,790

1/ Includes 5,727 cords balsam poplar.

Table 22.--Cooperage log production in the Lake States, 1954

(M bd.-ft. International 1/4-inch)

Species and origin	Volume cut and destination				
	Total	Minnesota	Wisconsin	Michigan	Other U. S.
Basswood:					
Minnesota	-	-	-	-	-
Wisconsin	100	-	100	-	-
Michigan	-	-	-	-	-
Total	100	-	100	-	-
Oak:					
Minnesota	1/	-	1/	-	-
Wisconsin	600	-	600	-	-
Michigan	-	-	-	-	-
Total	600	-	600	-	-
Aspen:					
Minnesota	-	-	-	-	-
Wisconsin	1/	-	1/	-	-
Michigan	-	-	-	-	-
Total	1/	-	1/	-	-
Hardwoods:					
Minnesota	1/	-	1/	-	-
Wisconsin	700	-	700	-	-
Michigan	-	-	-	-	-
Total	700	-	700	-	-
All species:					
Minnesota	1/	-	1/	-	-
Wisconsin	700	-	700	-	-
Michigan	-	-	-	-	-
Total	700	-	700	-	-

1/ Less than 50 M bd.-ft.

Table 23.--Production of fuelwood, chemical wood, and excelsior bolts in the Lake States, 1954

(Standard cords)

Species and origin	Volume cut		
	Fuelwood	Chemical wood[1]	Excelsior
White pine:			
Minnesota	1,000	-	-
Wisconsin	5,000	-	-
Michigan	1,000	-	-
Total	7,000	-	-
Red Pine:			
Minnesota	1,000	-	-
Wisconsin	5,000	-	-
Michigan	-	-	-
Total	6,000	-	-
Jack pine:			
Minnesota	50,000	-	-
Wisconsin	20,000	-	-
Michigan	[2]	-	-
Total	70,000	-	-
Spruce:			
Minnesota	1,000	-	-
Wisconsin	1,000	-	-
Michigan	1,000	-	-
Total	3,000	-	-
Balsam fir:			
Minnesota	1,000	-	-
Wisconsin	1,000	-	-
Michigan	1,000	-	-
Total	3,000	-	-
Tamarack:			
Minnesota	30,000	-	-
Wisconsin	10,000	-	-
Michigan	1,000	-	-
Total	41,000	-	-
Cedar:			
Minnesota	10,000	-	-
Wisconsin	5,000	-	-
Michigan	4,000	-	-
Total	10,000	-	-
Hemlock:			
Minnesota	-	-	-
Wisconsin	5,000	-	-
Michigan	1,000	-	-
Total	6,000	-	-
Softwood total:			
Minnesota	85,000	-	-
Wisconsin	52,000	-	-
Michigan	9,000	-	-
Total	146,000	-	-
Maple:			
Minnesota	40,000	-	-
Wisconsin	200,000	13,000	-
Michigan	279,000	74,000	-
Total	519,000	87,000	-
Birch:			
Minnesota	83,000	-	-
Wisconsin	75,000	1,000	-
Michigan	71,000	33,000	-
Total	229,000	34,000	-
Basswood:			
Minnesota	21,000	-	-
Wisconsin	20,000	-	3,000
Michigan	4,000	-	[2]
Total	45,000	-	3,000
Cherry:			
Minnesota	-	-	-
Wisconsin	2,000	-	-
Michigan	4,000	[2]	
Total	6,000	[2]	-
Elm:			
Minnesota	66,000	-	-
Wisconsin	75,000	-	-
Michigan	109,000	1,000	-
Total	250,000	1,000	-
Beech:			
Minnesota	-	-	-
Wisconsin	5,000	-	-
Michigan	37,000	15,000	-
Total	42,000	15,000	-
Oak:			
Minnesota	234,000	-	-
Wisconsin	650,000	7,000	-
Michigan	127,000	1,000	-
Total	1,011,000	8,000	-
Aspen:			
Minnesota	345,000	-	-
Wisconsin	190,000	-	38,000
Michigan	109,000	-	29,000
Total	644,000	-	67,000
Ash:			
Minnesota	55,000	-	-
Wisconsin	40,000	-	-
Michigan	26,000	1,000	-
Total	121,000	1,000	-
Miscellaneous:			
Minnesota	66,000	-	-
Wisconsin	20,000	-	-
Michigan	77,000	-	-
Total	163,000	-	-
Hardwood total:			
Minnesota	910,000	-	-
Wisconsin	1,277,000	21,000	41,000
Michigan	843,000	125,000	29,000
Total	3,030,000	146,000	70,000
All species:			
Minnesota	995,000	-	-
Wisconsin	1,329,000	21,000	41,000
Michigan	852,000	125,000	29,000
Total	3,176,000	146,000	70,000

1/ Includes slabwood, veneer cores, etc.
2/ Less than 500 cords.

Table 24.--Production of miscellaneous piece products in the Lake States, 1954

(Thousand Pieces)

Species and origin	Piling	Poles	Posts	Hewn ties
White pine:				
Minnesota	-	-	15	-
Wisconsin	-	-	-	-
Michigan	-	-	-	-
Total	-	-	15	-
Red pine:				
Minnesota	2.8	10.8	106	-
Wisconsin	.2	.5	15	-
Michigan	.5	-	-	-
Total	3.5	11.3	121	-
Jack pine:				
Minnesota	2.4	69.9	228	-
Wisconsin	-	-	50	-
Michigan	-	-	41	-
Total	2.4	69.9	319	-
Spruce:				
Minnesota	-	-	8	-
Wisconsin	-	-	-	-
Michigan	.1	-	7	0.5
Total	.1	-	15	.5
Balsam fir:				
Minnesota	-	-	20	-
Wisconsin	-	-	-	-
Michigan	-	-	10	-
Total	-	-	30	-
Tamarack:				
Minnesota	-	7.9	893	9.5
Wisconsin	-	-	610	1.5
Michigan	-	-	32	1.5
Total	-	7.9	1,535	12.5
Cedar:				
Minnesota	-	38.2	1,451	9.5
Wisconsin	-	21.8	3,900	3.5
Michigan	-	20.5	5,920	22.0
Total	-	80.5	11,271	35.0
Hemlock:				
Minnesota	-	-	-	-
Wisconsin	-	-	25	1.0
Michigan	-	-	-	2.5
Total	-	-	25	3.5
Softwood total:				
Minnesota	5.2	126.8	2,721	19.0
Wisconsin	.2	22.3	4,600	6.0
Michigan	.6	20.5	6,010	26.5
Total	6.0	169.6	13,331	51.5
Maple:				
Minnesota	-	-	3	-
Wisconsin	.1	-	70	.5
Michigan	1.1	-	13	9.5
Total	1.2	-	86	10.0
Birch:				
Minnesota	-	-	-	1.0
Wisconsin	-	-	50	-
Michigan	-	-	-	5.0
Total	-	-	50	6.0
Elm:				
Minnesota	-	-	32	-
Wisconsin	1.2	-	40	-
Michigan	1.8	-	66	-
Total	3.0	-	138	-
Beech:				
Minnesota				
Wisconsin				
Michigan				
Total	-	-	-	-
Oak:				
Minnesota	-	-	4,614	-
Wisconsin	.4	-	4,810	-
Michigan	7.1	-	556	-
Total	7.5	-	9,980	-
Aspen:				
Minnesota	-	-	189	-
Wisconsin	-	-	215	-
Michigan	-	-	40	-
Total	-	-	444	-
Ash:				
Minnesota	-	-	83	.5
Wisconsin	-	-	25	-
Michigan	.1	-	20	-
Total	.1	-	128	.5
Hickory:				
Minnesota	-	-	2	-
Wisconsin	.1	-	5	-
Michigan	.5	-	15	-
Total	.6	-	22	-
Miscellaneous:				
Minnesota	-	-	28	-
Wisconsin	-	-	25	-
Michigan	-	-	19	-
Total	-	-	72	-
Hardwood total:				
Minnesota	-	-	4,951	1.5
Wisconsin	1.8	-	5,240	.5
Michigan	10.6	-	729	14.5
Total	12.4	-	10,920	16.5
All species:				
Minnesota	5.2	126.8	7,672	20.5
Wisconsin	2.0	22.3	9,840	6.5
Michigan	11.2	20.5	6,739	41.0
Total	18.4	169.6	24,251	68.0

Table 25.--Production of mine timbers, heading stock, and other miscellaneous cordwood products
Lake States, 1954

(Thousand cubic feet)

Species and origin	Mine timbers[1]	Heading stock	Miscellaneous products[2]	Species and origin	Mine timbers[1]	Heading stock	Miscellaneous products[2]
White pine:				Birch:			
Minnesota	11	-	50	Minnesota	7	-	700
Wisconsin	-	-	40	Wisconsin	15	7	50
Michigan	38	-	40	Michigan	253	31	50
Total	49	-	130	Total	275	38	800
Red pine:				Basswood:			
Minnesota	44	-	40	Minnesota	-	8	60
Wisconsin	-	-	20	Wisconsin	-	226	60
Michigan	1	-	30	Michigan	-	3	20
Total	45	-	90	Total	-	237	140
Jack pine:				Elm:			
Minnesota	563	-	90	Minnesota	43	2	-
Wisconsin	-	-	40	Wisconsin	5	29	-
Michigan	-	-	60	Michigan	42	-	50
Total	563	-	190	Total	90	31	50
Spruce:				Beech:			
Minnesota	15	-	20	Minnesota	-	-	-
Wisconsin	-	-	10	Wisconsin	-	-	-
Michigan	2	-	20	Michigan	48	-	460
Total	17	-	50	Total	48	-	460
Balsam fir:				Oak:			
Minnesota	-	-	50	Minnesota	-	17	10
Wisconsin	-	-	20	Wisconsin	4	8	10
Michigan	-	-	50	Michigan	11	-	50
Total	-	-	120	Total	15	25	70
Tamarack:				Ash:			
Minnesota	563	-	20	Minnesota	71	51	-
Wisconsin	85	-	10	Wisconsin	-	57	-
Michigan	948	-	20	Michigan	-	-	-
Total	1,596	-	50	Total	71	108	-
Cedar:				Aspen:			
Minnesota	269	-	90	Minnesota	-	165	2,670
Wisconsin	128	-	120	Wisconsin	-	669	310
Michigan	1,317	-	350	Michigan	-	40	130
Total	1,714	-	560	Total	-	874	3,110
Hemlock:				Cottonwood:			
Minnesota	-	-	-	Minnesota	-	2	-
Wisconsin	31	-	20	Wisconsin	-	8	-
Michigan	165	-	40	Michigan	-	19	-
Total	196	-	60	Total	-	29	-
Softwood total:				Hardwood total:			
Minnesota	1,465	-	360	Minnesota	143	245	3,440
Wisconsin	244	-	280	Wisconsin	52	1,095	610
Michigan	2,471	-	610	Michigan	1,257	93	1,180
Total	4,180	-	1,250	Total	1,452	1,433	5,230
Maple:				All species:			
Minnesota	22	-	-	Minnesota	1,608	245	3,800
Wisconsin	28	91	180	Wisconsin	296	1,095	890
Michigan	903	-	420	Michigan	3,728	93	1,790
Total	953	91	600	Total	5,632	1,433	6,480

1/ Stulls, cribbing, mine poles, trestle logs, hewed shaft timbers, smelter brands, lagging, etc.

2/ Rough forest products used for manufacture of matches, clothespins, bowling pins, handles, woodenware, toys, shingles, lath, log cabin material, etc.

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Station Paper 44, 32 pp., illus. 1957.

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